Is age a contributing factor to nurses suffering from occupational low back pain, or is it due to experience and training in manual handling and ergonomics?

Nurses have one of the highest rates of musculoskeletal disorders amongst all occupational groups, specifically low back pain (LBP), (Fronteira & Ferrinho, 2011). It is feasible that the nature of daily tasks nurses perform will cause stresses on the spine. As an upcoming nursing graduate, I felt it was a relevant topic to pursue and it prompted me to investigate risk factors such as age, training and experience, along with recommendations on ways to minimize risk.

Literature Review

A systematic review of literature conducted on nurses worldwide, reaffirmed the high risk associated with developing LBP when working as a registered nurse. In New Zealand, sixty-three percent of long term injury claims to the lower back or shoulders are from hospital and residential care employees alone, (ACC, 2012). Further examination of literature revealed that occupational exposure appears to be a primary influence on developing LBP rather than age, (Barnes, 2009). Forty to sixty percent of student nurses report musculoskeletal problems at some stage during clinical placements or training, however only twenty percent officially reported it, (Mitchell et al, 2008). This highlights that the current problem is also affecting younger nurses and students, and it could be bigger than what current literature proposes.

High Risk Situations

Some of the most high risk and hazardous occupational activities have been identified as manual transfers of patients between bed and chair, or manually repositioning patients in bed, (Smedley et al, 1997).

* Evidence suggests that nurses regularly perform the assisted sit-to-stand technique approximately 90times a day, (Barnes, 2009).
* Nursing students and graduate nurses attributed the majority of their low back pain to bending or lifting, which would be expected to cause stressors on spine especially if done awkwardly (Mitchell et al., 2008).
* Over half of the nurses described the primary cause of their low back injury as training related, (Yassi et al, 1995)

Recommendations

Equipment

Evidence supports having manual handling equipment available in all clinical environments where patient handling occurs frequently. This includes items such as patient hoists, stand-aids, height adjustable beds and baths, sliding sheets, lateral transfer boards, and walking belts, (D'Arcy, Sasai, & Stearns, 2012) .

Education

Whilst it is important to ensure the appropriate equipment for each transfer is available, it is vital that nurses are well trained in how to use them. Nurses should receive regular access and training to manual handling equipment and learn how to eliminate manual handling situations through a thorough risk assessment, (Barnes, 2007).

Commands

The individual nurse can reduce their risk of LBP associated with manual handling by considering their choice of commands when giving instructions to the patient, especially with transfers from chair to standing or chair to bed. For example using the command "ready, steady, stand", rather than "one, two, three, lift". This enhances nurse and patient safety by requesting more input from the patient, promoting patient independence and decreasing the load on the nurse as they abstain from lifting the patient, (Barnes, 2007).

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Poster by Olivia Lindstrom

PECOT MODEL – LOW BACK PAIN IN NURSES

To gather information for this poster I critically reviewed evidence-based literature on the prevalence of low back pain in nurses. I chose to investigate whether there was a difference as to who was reporting or experiencing LBP. Was it student nurses or senior nurses with high prevalence rates? I used the PECOT model to help specify my research question by identifying these components of the clinical issue. The PECOT is an acronym for five different technique areas to consider when undertaking evidenced-based research. This includes Population, Exposure, Control, Outcome and Time, (Schneider, Whitehead, LoBiondo-Wood, & Haber, 2013). Below is a table of the PECOT model which helped me consider factors which guided my research question to become: 'Nurses are known to suffer from occupational LBP. Is age a contributing factor to high prevalence of LBP or is it due to a nurse's experience and training in manual handling and ergonomics?

PECOT category	Information relating to question	Explanation
Population	Registered Nurses - In New Zealand - Around the world	Nurses make up a large proportion of health care professionals whom are required to transfer and manoeuver patients in a variety of ways and settings. I widened my search to include registered nurses worldwide because the information on just NZ RN's was minimal and there were no current studies suitable.
Exposure	Nurses who experience low back pain due to work place injuries	It is known that nurses commonly experience LBP so I narrowed it down to injuries to the lower back that have occurred because of work related tasks.
Comparison/control	Comparing nurses who report LBP and at what age? Investigate student LBP and new graduate LBP. Compare exposure training and education in manual handling.	I wanted to investigate if lower back injuries could be managed or prevented better, so I chose to examine LBP in nursing students and registered nurses to see if it was experience on the job made a difference to injury rates.
Outcome	The results from original literature searches highlighted that there is a current problem of LBP in nurses and it is also affecting younger nurses and students.	Due to LBP not being properly reported, this issue affecting nurses could be bigger than what current literature proposes. By comparing age and exposure to training it may help to reveal if training and education around manual handling and safety techniques reduces the incidence or risk of developing LBP due to work related tasks.
Time	How many years of experience	Due to age being variable and there is more older nursing staff returning to work later or joining the workforce later, experience was easier to compare rather than age.

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