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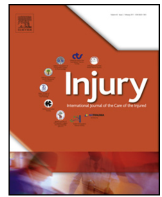

Nursing care of fragility fracture patients

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ABSTRACT

The challenge of caring for patients with fragility fractures is particularly acute for nursing teams who are in short supply and work with patients following fracture on a 24 h basis, coordinating as well as providing complex care. This paper considers the role of nurses within the orthogeriatric team and highlights the value of effective nursing care in patient outcomes. It explores the nature of nursing for patients with fragility fracture with a focus on the provision of safe and effective care and the coordination of care across the interdisciplinary team. It also highlights the need for specific skills in orthopaedic and geriatric nursing as well as specialist education.

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Introduction

Patients with fragility fractures represent a significant challenge to the health care team. This challenge is particularly problematic for nursing teams who are struggling to provide adequate nursing care due to the global shortage of nurses, even in wealthier healthcare systems. Evidence based practice, improving standards and audit have all had a positive impact on the management of patients with fragility fractures. The nursing role in preventing morbidity and mortality and in ensuring patient safety during recovery and rehabilitation will be central to the future of continued improvement of fragility fracture care.

There is no single healthcare profession that can manage the care of fragility fracture patients in isolation, but there is encouraging evidence that patients' outcomes are improved if there is full collaboration across the many disciplines making up the 'orthogeriatric' team. This paper will focus on the impact of expert nursing care on patient outcomes while acknowledging that a fundamental characteristic of holistic care is that nurses must collaborate with others to achieve best practice [1].

The combined efforts of hip fracture audit, research and service improvement have resulted in significant improvements in hip fracture outcomes. There remains, however, significant mortality and morbidity that is more likely to be caused by care factors related to the quality of nursing care and the limitations of nursing resources than to the surgical event or medical care. Nursing has a significant role to play in the continued improvement in care standards and outcomes. It has been pointed out that surgery for hip fracture is now so well-crafted that its direct complications are now unusual and patients who struggle to recover now do so due to pre-existing problems such as frailty, cognitive and nutritional problems that worsen following surgery and can be significantly impacted on by effective nursing care [2].

The nature of nursing

Patients hospitalised because of a fragility fracture have numerous highly complex orthogeriatric care needs that need a team approach to care that includes skilled, compassionate nursing. The continued development and improvement of fragility fracture care requires nurses who have specific sets of both generic and specialist nursing skills, including those of both the orthopaedic nurse and the geriatric practitioner. Nurses spend the most time directly with patients and represent the largest group of healthcare professionals, so are in a central position to

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have a positive impact on outcomes. Even so, understanding the exact impact of nursing has been restricted by a lack of clarity regarding the complex role of the nurse and nursing's unique contribution to care over the century and a half since it became a formal profession.

One of the unique characteristics of nurses is that they spend the most time with patients, providing care across the 24-hour period, often over many days or weeks, in both primary and secondary care. They also have the greatest depth of relationships with the patient's family. Nurses' skills have a broad reach that includes; ensuring compassion, empathy and comfort are prevalent in care; coordinating care; undertaking clinical assessment; monitoring and minimising complications; providing education; primary and secondary fracture prevention and facilitating the team approach to rehabilitation. Planning and providing care that is holistic, patient-centred and seamless between hospital, community and other services involves a deep understanding of the recovery experience from the patient's perspective. Nursing teams in both secondary (hospital) and primary (community) settings work closely with families and other care providers to augment the experience of the fracture, surgery, recovery and subsequent care through their close relationships with everyone involved. In some localities, nurses now work in diverse, autonomous and highly skilled roles including; nurse specialists, advanced nurse practitioners and consultant nurses, offering high quality, age-sensitive care tailored to the needs of older people with fragility fractures [3].

The two central purposes of nursing are: 1) The provision of safe and effective care and; 2) Coordination of the multidisciplinary team. The International Council of Nursing (ICN) [4] described nursing as: "... *encompassing collaborative and autonomous care of all individuals regardless of age, including the provision of health promotion, prevention of illness and the care of sick and dying patients*". Due to the extended time nurses spend with patients and their families, they gain in-depth appreciation of the patient's complex needs and value systems. Through this intimate knowledge of the patient, nurses can provide leadership and coordination of the team which enables them to significantly influence care pathways and service development.

Provision of safe and effective care

Fragility fractures commonly result in a reduced level of functional ability and patients rarely regain their full pre-fracture level. Regardless of the clinical environment in which fragility fracture patients are managed, nurses need to possess a common set of core skills to provide safe and effective care for patients with complex needs. Recognition of the complexity of care needs of this vulnerable population is a critical step in facilitating positive outcomes. Hip fracture is known to carry a high incidence of morbidity, disability and mortality of 10% at one month and 30% at one year [5], posing a challenge to nurses in managing complex multifactorial issues relating to advanced patient age, frailty, pre-existing comorbidities, sarcopenia, reduced physical reserves and cognitive impairment.

Nurse-sensitive patient outcomes such as patient comfort and quality of life, risk outcomes and safety, patient empowerment and patient satisfaction are traditionally viewed as indicators of the quality of nursing care [6]. It is more likely, however, that these parameters reflect the care provided by the whole team. Indicators that are more specific to the generic nursing role include; healthcare-associated infection, pressure ulcers, falls, drug administration errors and patient satisfaction [7,8]. There is a need to develop more advanced nurse sensitive indicators. Indicators will need to take account of evidenced-based nurse management strategies that co-exist with medical models of care; reducing the risk of developing complications, aiming to reduce the risk of morbidity and mortality, whilst improving recovery, maintaining functional ability and improving patient outcomes and experiences [3]. Demonstrating such impact will enable nurses to establish the true value of their input and to argue for the increased resources necessary for continued care improvement. Hip fracture audit and other measures of quality of fragility fracture care must capture aspects of the patient's care which can be influenced by nursing. The development of nurse-sensitive indicators that coexist with medical parameters relating to pain, delirium, pressure ulcers, hydration, nutrition, constipation, prevention of secondary infections and venous thromboembolism (VTE) are most likely to capture the nursing contribution and lead to care improvement [9,10]. Data about these parameters needs to be collected along with other information that is more difficult to elucidate such as the patient experience, understanding and perceptions about their own goals and the impact of care.

The maintenance and restoration of the functional capacity of patients with fragility fractures is a primary goal for the whole interdisciplinary team, but nursing interventions have a major influence [11]. Bed rest and immobility have a significant impact on older people, leading to loss of muscle function and strength, less efficient respiration and increased risk of respiratory infections, pressure injuries and orthostatic hypotension. These influences further weaken bone structure, increase risk of fractures and impact on psychological issues such as lack of motivation.

Early mobility reduces the risk of harmful events and enables better functional recovery and independence. Nursing teams work particularly closely with therapists in ensuring that immobility lasts the shortest time possible and that the recovery of mobility is commenced as soon as the patient is able. Because of the 24 h nature of nursing in the hospital setting it is the nursing team, however, who are most inextricably linked to patient progress towards recovery of mobility as the practice for this takes place during usual activities of daily living such as, for example, while the patient is being supported moving from bed to chair and walking to the toilet. Pain management, nutrition, hydration, remobilisation, rehabilitation and motivation are all central to prevention of complications for patients following hip fracture and these are all nursing care priorities. Nurses and the care staff with whom they work are also key observers of patients. Knowing how to recognise signs of complications such as delirium, pressure injuries and venous thromboembolism is central to ensuing early intervention is achieved and causative factors are reversed.

Pressure ulcers are one of the most important nurse-sensitive indicators of quality care and are considered in many national hip fracture registries/databases. In a pan-European study of hospitalised hip fracture patients, Lindholm et al. [12] reported that there was a 10% pressure ulcer rate recorded on admission and that this increased by more than double to 22% at discharge. In a Canadian study, the rate was significantly higher, at 16–55% [13]. The most important package of evidence-based strategies for pressure ulcer prevention are enshrined in international guidelines [14] and include: assessment and documentation of skin state and assessment of pressure ulcer risk using a validated tool; timely, detailed documentation that includes correct staging of pressure ulcer; nutritional assessment and intervention; consideration of pressure relieving and reducing bed and chair surfaces, regular repositioning; and early supported mobilisation. Pressure ulcer prevention involves an understanding of precipitating factors and a complex interplay of interventions that require a sustained, consistent coordinated approach to care that encompasses all other aspects of nursing such as mobilisation, pain management, skin care, continence care, nutrition and hydration illustrating. This illustrates the complexity of nursing care that is difficult to capture and difficult to measure [2].

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