

Physiological And Psychosocial Nursing Approaches to Orthopedic Oncology Patients



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Introduction:

The effects of bone cancer can be devastating for skeletal homeostasis, resulting in sequelae such as bone pain, pathological fractures, hypercalcaemia, the need for palliative radiotherapy or surgery to bone, spinal cord compression, anxiety, depression, awakening of self-esteem, independence, social skills, and awareness. It is therefore important that nurses caring for patients with advanced cancer are aware of the possible effects of bone cancers to ensure prompt and effective management and help maintain patients' quality of life.

Aim:

The aim of this study is to identify the effects and symptoms of bone cancer and discuss the nurse's role in caring for patients with bone cancer in order to equip nurses caring patients with primary or metastatic bone cancer.

Methods:

We searched by using keywords entitled "orthopedic oncology, bone cancer, physiological and psychosocial nursing care" through the The Cochrane Library, Pubmed (MEDLINE), CINAHL, EBSCOhost (from 2003 to 1 December 2013). Selection criterion was full text articles in English on nursing care of patients with primary or metastatic musculoskeletal cancer.

Results:

In our search totally 13 papers were accessed including two case studies, five reviews and six original researches. All studies we accessed were recommending physiological and psychosocial nursing care for orthopedic oncology patients and their families in a holistic approach.



Nursing Care for Physiological Problems

- **Bone Pain:** Bone pain deteriorates the life quality of orthopedic oncology patients and keeps patients unable to perform daily life activities. In such patients effective pain management is crucial. Nurse should be able to assess pain (location, character, quality, intensity, associated other symptoms) and a common validated pain scale should be used to assess pain. WHO Cancer Pain Relieve Programme advises using opioids. Further, massage practice or nonpharmalogical pain alleviation methods may be alternative treatment options. For documentation, pain score should be kept in a patient diary.
- **Pathological Fracture:** In contrast to traumatic fractures, no external force is required to cause a pathological fracture. The bone, which has been weakened substantially by bone metastases, fractures spontaneously. Patients should be avoided from trauma and briefed on pathological fracture at the same time with risk assessment for this possible complication.
- **Hypercalcaemia of malignancy:** Hypercalcaemia of malignancy occurs in patients with cancer who have tumors that secrete hormones and cytokines that cause calcium resorption from bone and hypercalcaemia of malignancy. The secretion of parathyroid hormone-related protein by the tumour is thought to have a major role. Hypercalcaemia symptoms include anorexia, nausea and vomiting, loss of appetite, feeling very thirsty, dehydration, constipation, tiredness, muscle spasms or tremors, irregular heartbeat, drowsiness, confusion, lethargy and agitation. Regulation of hypercalcaemia and symptomatic treatment is vital. In severe hypercalcaemia (calcium >3.5mmol/L) initial management involves intravenous (IV) fluid hydration and anti-emetics. Nurses should be aware that drugs promoting hypercalcaemia such as thiazide diuretics, lithium, ranitidine, cimetidine, vitamins A and D, and preparations containing calcium should be stopped. Hypercalcaemia usually develops as a late complication of cancer. Providing psychological support for the patient and family is important. In addition, the nurse has a key role in educating the patient and family members to report symptoms of hypercalcaemia.
- **Malignant Spinal Cord Compression:** Malignant spinal cord compression may be manifested with back pain, motion limitation, motor weakness, paralysis, difficulty in daily life activities. Early diagnosis and expert multidisciplinary care is essential to aid patient rehabilitation and optimize quality of life. Patients, families and carers should be offered information that explains the symptoms of malignant spinal cord compression, and advises on what to do if they develop these symptoms. A thorough patient history is key to the evaluation of malignant spinal cord compression and nurses should consider the following factors: characteristics of pain (location, radiation, duration, severity time of pain) and factors that exacerbate or relieve pain and other symptoms, motor weakness, paresthesia. The nurse should question the patient about the existence, location, and onset of numbness, tingling, or coolness in the arms, hands, fingers, legs, feet, toes and trunk. Patients should also be asked about constipation, urinary retention or continence issues with the bowel or bladder to identify possible signs of injury to the autonomic nerves



Nursing Care for Psychosocial Problems

- **Quality of life assessment, including psychological, spiritual and social care, is important because patients with distress also report higher levels of bone pain.** Ambiguity in diagnosis and prognosis of orthopedic cancer, symptoms of the disease and aggressive treatment causes important psychological implications. Cancer diagnosis and treatment may lead emotional problems in patients and families. It is known that despite the improvements in prognosis and treatment, distress level of patients with cancer is elevated and problems such as anxiety and depression are common. Nurses have an important role in providing emotional support to orthopedic oncology patients. In clinical practice, emotional distress should be assessed for early detection of patient at high risk. Such patients may benefit from support of appreciated individuals, positive and constructive thinking.
- **Nurses should be aware of characteristics of the period that the individual is trying to cope and how to deal with it.** Family caregivers should be included in the nursing care plans and families should be assessed for depression and anxiety. Spirituality and prayer, calmness and peace are two main strategies.
- **Main role of nurses is to assist the patient in understanding the principles of treatment approaches.** Positive factors that enable this main role are behaviors that promote the mood of patient, protection of privacy, sufficient briefing, friendly approach, using humor, assistance in daily life activities, emotional support, recognition of patient's emotions, trust-based communication, time allocation for conversation, relaxing attitudes of nurses. Negative behaviors that harm the interaction are not recognizing the patient's emotions, not listening to patient, being insensitive to patient, nurses being incompetent/hesitant, inappropriate/unprofessional behaviors of nurses.

Conclusions and Recommendations:

In our search, only a few studies on orthopedic oncology patients were found. We suggest that nurses should get more involved in this area and deal in detail with physiological and psychosocial needs of patients and consecutively develop evidence based practice that promote quality of life.

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