

Editorial

QUALITY OF LIFE IN PATIENTS WITH ORTHOPEDIC TRAUMA

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The actual objective of modern medicine concerning a better quality of life in patients in different stages of disorders, is possible to be achieved through knowledge about multiple aspects of etiopathogeny and pathology. Quality of life (QOL) is an important issue for the large number of patients who may need to adapt to severe and chronic disability due to joint stiffness. The loss of mobility in the joints makes patient more dependent on others which affects their quality of life.

Any loss of ability to live independently in the community has a considerable detrimental effect on their quality of life. It follows that reduction in the incidence of fractures will not only save lives but will prevent a significant reduction in their quality of life (1).

Quality of life has emerged as a concept that refers to many subjective experiences, including well-being and daily functions. Quality of life measures are instruments that describe how patients who experience chronic conditions perceive the impact of disease. Besides the symptoms as pain, disturbances of sleep, limitation of mobility, there are measured

emotional distress and severe restrictions in a multitude day - to - day (2).

Several studies of patients with orthopedic trauma have focused on measures of functional recovery, complications, mortality and costs and less attention has been focused on patient psychological status following orthopedic trauma- a common source of patient complaints and a clinical relevant outcome (3).

Over time, the most frequent diagnosis that had benefit of quality of life surveys was osteoarthritis. Total hip and total knee arthroplasty were followed by surveys with a duration ranged from seven days to seven years, describing results at six and twelve months (4). But no doubt, the goal of any surgical, operatory procedure performed is to relieve the pain and limitation in movement during functional tasks and also to improve quality of life.

With the increase in high-speed vehicular trauma, the number of patients with multiple fractures including intraarticular fractures and associated soft tissue injury has gone up considerably. This has led to considerable morbidity after the completion of the treatment. Joint

stiffness is one of the important fall-outs of such injuries. Upper extremity fractures may result in ankylosis of the joints such as shoulder, elbow or hand, which may be quite disabling at times. This stiffness may hamper routine as well as certain other activities. Some authors affirm that coping is a behavior that could protect people from being psychologically harmed by problematic social experience. They further added that coping protects by eliminating or modifying stresses, perpetually controlling the meaning of stressful experience, thus neutralizing its problematic character and keeping emotional consequences within manageable bounds (5).

They found that 1 in 5 patients met the criteria for psychological illness. Psychosocial factors, specifically, ongoing litigation and psychological symptoms, were associated with reduced health-related quality of life. The global severity of psychological symptoms and ongoing litigation predicted poorer Mental Component summary scores and the Physical Component summary score was predicted by the intensity of psychological distress (5).

Hip fractures are a major cause of morbidity and mortality, and almost all occur after a fall (6, 7). In the next 50 years the number of hip fractures will probably increase greatly. About 20% of people who fracture their hips are dead within a year, and many of those who recover from hip fracture require additional assistance in daily living and many of those who recover from hip fracture require additional assistance in daily living (8, 9, 10, 11).

Impact of falls and hip fracture data probably deserve more attention with regard to registration forms. Measures of different function during activities of daily living as well as subjective measures of health related quality of life have to be designed in order to have general as well as individual dimensions. The Advanced Trauma Life Support program of the American College of Surgeons has developed a de facto standard of care for the first hour of treatment of patients with trauma who are treated in North America. No equivalent for the treatment of orthopaedic trauma has been established. There was provided an overview of the important topics every orthopaedist treating patients with musculoskeletal trauma should be familiar with. The topics include: diagnosis of musculoskeletal injury and documentation of physical exam, pelvic ring injuries, open fractures, compartment syndrome, the timing of definitive fixation in the patient with polytrauma, delayed diagnosis of musculoskeletal injury and deep venous thrombosis prophylaxis (14).

Hip fracture is also the most common disabling injury and cause of accidental death in older people, affecting 1 in 4 women by the age of 90 years and 1 in 8 men. These fractures have caused an "epidemic" during the last 20 years because the age specific rate for such fractures has doubled, and there has been a significant increase in the size of the elderly population in Europe. Hip fracture patients occupy a quarter of all orthopaedic beds, the treatment is costly and the rehabilitation slow (1).

QUALITY OF LIFE IN PATIENTS WITH ORTHOPEDIC TRAUMA

The incidence and the public health and economic consequences of this injury have risen as the population has aged, and this is expected to continue for the foreseeable future.

The prevention and management of hip fractures involves a wide range of disciplines, and most people who sustain the injury require surgery followed by a period of rehabilitation. The complexity of care needed for hip fractures makes the condition a real test and a useful marker of the integration and effectiveness of modern health care (15).

The survey reported by Bhandari showed evidences as followings:

- 1 in 5 patients met the criteria for a psychological illness (22%).
- Patients experienced higher than normal levels of psychological distress in all primary dimensions\ of the SCL 90-R, specially phobic anxiety and somatization.
- Patients' SF-36 Mental Component summary scores were significantly associated with ongoing litigation and global severity of their psychological symptoms.
- Patients' SF-36 Physical Component summary scores were significantly associated with older age, ongoing litigation, the location of the fracture and the intensity of their psychological symptoms.

Previous work has reported that mental illness is an independent predictor of poor outcome following orthopedic trauma, and future studies should explore whether management of psychological symptoms independently predicts recovery from orthopedic

trauma. The findings add to a growing body of literature that suggests psychological symptoms among orthopedic trauma patients may be an important target for intervention (16).

Mortality associated with a hip fracture is about 5-10% after one month. One year after fracture about a third of patients will have died, compared with an expected annual mortality of about 10% in this age group. Thus, only a third of deaths are directly attributable to the hip fracture itself, but patients and relatives often think that the fracture has played a crucial part in the final illness (17).

More than 10% of survivors will be unable to return to their previous residence. Most of the remainder will have some residual pain or disability (17).

A proximal femoral or hip fracture is the most common reason for admission to an acute orthopaedic ward.

The treatment of a hip fracture ideally requires a wide range of disciplines, as the patient will present to the ambulance service and the accident and emergency unit, then pass through departments of radiology, anaesthetics, orthopaedic surgery, medicine, and rehabilitation. Medical and social services in the community may be needed when the patient leaves hospital (18).

In 1999 The World Health Organisation developed an extensive education and communication programme to increase the knowledge of bone physiology and osteoporosis, and to raise the awareness about major risk factors, prevention and management of the disease (25).

Objective measures of function, such as activities of daily and subjective utility based measures of health related quality of life, can express the personal dimension. Hip fracture adversely affects health related quality of life, with greater physical recovery reflected in better quality of life. Thus, health related quality of life is an important outcome for studies attempting to reduce the number of falls or their consequences (21). As part of an ongoing randomized trial concerning community hip protector trial, examining the effectiveness of hip protectors in older women living in the community, many authors sustain the utility associated with falls that cause a fear of falling or hip fracture in older people.

The relationship between joint range of motion and quality of life has been explored with less rigor (22). Injuries sustained during sport activities are common, the majority being soft-tissue injuries involving ligaments, tendons or muscles. However, with increasing competitiveness in sports even at the recreational level, there are increasing numbers of sports-related fractures noted (23). Osteoporotic fractures remain a major public health problem. Currently available osteoporosis therapies significantly reduce the risk of fractures, but up to 50% of patients have an inadequate clinical outcome to therapy (23). Osteoporosis related fractures are significantly associated with morbidity and mortality (23).

Their nonfatal consequences include pain, physical impairment and loss of functional ability, with significant adverse effects on patient quality of life,

including substantial costs in terms of diminishing activity, hospitalization and length stays in nursing homes (19).

The first prospective, multinational study designed to evaluate changes in health-related quality of life in postmenopausal women with osteoporosis who have an inadequate response to anti-resorptive medication (19). Prevention of fragility fracture is an important public health concern. At present no drug therapy can diminish completely the risk of fracture. In that sense osteoporosis guidelines are seeking the best way and concepts for treatment. Measurement of BMD (bone mass density) or biochemical markers did not prove their complete correlation with the risk of fracture and individual variability concerns arise (19, 25).

According to the International Osteoporosis Foundation, every 30 seconds someone in the European Union sustains a fracture as a result of osteoporosis. Annual direct medical cost to treat 2.3 million osteoporotic fractures in Europe and in the United States of America come up to US\$ 27,000 million (26).

In 1998 the European Commission released a "Report on Osteoporosis in the European Community – Action for Prevention". In this they made 8 broad recommendations aimed at making the prevention and management of osteoporosis and related fractures a health care priority in all Member States. In 2001 the International Osteoporosis Foundation (IOF) reported on an audit which clearly showed that little progress had been

QUALITY OF LIFE IN PATIENTS WITH ORTHOPEDIC TRAUMA

made – governments were still not taking the steps necessary to prevent this growing epidemic of fractures.

A recent report from the European Parliament Osteoporosis Interest Group and European Union Osteoporosis Consultation Panel Meeting has highlighted the important aspect of management of osteoporotic fractures, and in particular fractures of the hip. One in three women and one in five men over the age of 50 have sustained an osteoporotic fracture (19). Osteoporosis related fractures account for more days spent in hospital than many other diseases like diabetes, myocardial infarction and breast cancer for women over 45 years. In 2000 the number of osteoporotic/fragility fractures in Europe was estimated at 3.79 million, of which 0.89 million were hip fractures (179,000 hip fractures in men and 711,000 in women). The total direct costs were estimated at € 31.7 billion which were expected to increase to € 76.7 billion in 2050 based on the expected changes in the demography of Europe (19).

Some very recent studies have suggested that certain types of orthopedic trauma result in ongoing disability and that factors other than injury severity or location may influence outcome. Assessing the outcome after 12 months and 2 years after severe orthopedic trauma, the survey was aimed to examine change over time and to examine which demographic, injury-related and psychological factors are associated with persisting disability. Using the SF-36 Health Survey, Symptom Checklist-90-R, Brief Pain Inventory, Hospital Anxiety

and Depression Scales, and Posttraumatic Stress Disorder Checklist-Specific, the results indicated the presence of significant ongoing disability in all SF-36 physical and mental health domains, significant ongoing psychologic adjustment problems, including posttraumatic stress disorder (PTSD) symptoms, and pain, with little or no improvement between 1 and 2 years postinjury. The presence of pain, anxiety, depression or PTSD symptoms were the strongest predictors of outcome on most variables, with older age also contributing to negative outcomes. Injury severity and type did not predict outcome, although those with lower limb fractures had greater pain and poorer physical outcomes than those with fractures in other locations. Pain and PTSD have been the most disabling symptoms/factors after orthopedic trauma (25).

Another very recent survey has stated the QOL in patients treated with bone-anchored trans-femoral amputation prostheses (OI-prostheses) using the method of osseointegration. This study was aimed to analyze general and condition-specific health related quality of life (HRQL) at 2-year follow-up as compared to the preoperative situation. Using two self-report questionnaires preoperatively and at follow-up: the SF-36 Health Survey (SF-36) and the Questionnaire for persons with a Transfemoral Amputation (Q-TFA), the results have stated that four of the scales of the SF-36 (Physical Functioning, Role Functioning Physical, Bodily Pain and Physical Component Score) and all

four scores of Q-TFA (Prosthetic Use, Prosthetic Mobility, Problems and Global Health) were statistically significantly improved at follow-up showing superior general physical HRQL, increased prosthetic use, better prosthetic mobility, fewer problems and a better global amputation situation. Thus, osseointegrated prostheses appears to represent a promising development in the rehabilitation of individuals with transfemoral amputation and increase their quality of life, according to the authors of the report (26).

All of the surveys have important implications for individual patient care and preventive interventions relating to orthopedic trauma. They state the need for rehabilitation programs focusing on enhancing patients' mobility and functional activities and also to enhance their ability to live independently and participate in all aspects of community life.

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QUALITY OF LIFE IN PATIENTS WITH ORTHOPEDIC TRAUMA

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