REVIEW ARTICLE

PSCHOLOGICAL DISTRESS FOLLOWING ORTHOPAEDIC TRAUMA – A REVIEW

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ABSTRACT:
Trauma remains the prime cause of mortality in the first 4 decades of life, most people with traumatic injuries will survive their accident Psychiatric complications of physical injury are a public health concern. Following orthopaedic trauma, recovery depends on the outcome of mental health. Poor mental health, development of symptoms of PTSD (Post Traumatic Stress Disorder), depression and increased substance abuse leads to poor recovery. Present review article has discussed quality of life on patients following orthopaedic trauma with emphasis on the psychological distress.
Key words: Orthopaedic trauma, Post traumatic stress disorder, Pschological distress.

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INTROCUCTION:

Although trauma remains the leading cause of mortality in the first 4 decades of life, most people with traumatic injuries will survive their accident. As trauma care has improved substantially during recent decades and has led to higher survival rates[1] and there has also been an increasing focus on the patients' perceived health-related quality of life (HRQOL) as an outcome after trauma.[2].

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.[3]

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.[4]

The prevalence of psychological illness following traumatic injuries varies according to the diagnostic criteria used in studies, the timing of the assessment and definitions of trauma. Estimates of psychological symptoms following musculoskeletal trauma have ranged from 6.5% to 51.0%.[5-9]

Several studies of patients with orthopedic trauma have focused on measures of functional recovery, complications, mortality and costs. Less attention has been focused on patient psychological status following orthopedic trauma - a common source of patient complaints and a clinically relevant outcome. So, present review article has discussed quality of life on patients following orthopaedic trauma with emphasis on the psychological distress.

POST-TRAUMATIC STRESS DISORDER (PTSD)

PTSD is a type of anxiety disorder that occurs after a person experiences a traumatic event involving physical injury, and occurs in 20 to 51 percent of patients with an orthopaedic injury. It can hinder their emotional, physical and functional recovery following orthopaedic treatment

Generally, higher-energy mechanisms are most commonly associated with PTSD, but no specific type of fracture or injury has been identified.

"Basically, any type of musculoskeletal injury that results from significant trauma may be associated with PTSD. PTSD can have a significant impact on a patient's ability to perform simple, daily chores, and can slow the rehabilitation process, even affecting how the patient experiences pain and perceives his or her recovery.[10]

A diagnosis of PTSD relies on the presence of specific behaviors or symptoms, including: re-experiencing the traumatic event, including nightmares, flashbacks and intrusive memories; avoiding situations reminiscent of the original trauma, reluctance to talk or think about the original trauma, or feeling emotionally "numb" about the event; and, anger, irritability, difficulty concentrating, insomnia and/or an increased startle response. In addition, the symptoms must have occurred for at least one month and they must be severe enough to cause a noticeable change in normal behavior.[10-14]

MEASUREMENT OF HEALTH RELATED QUALITY OF LIFE

36-Item Short-Form Health Survey (SF-36) was used to measure HRQOL. SF-36 is a generic 36-item questionnaire with eight dimensions measuring physical functioning, role limitations because of physical problems, bodily pain, general health perceptions, vitality social functioning, role limitations because of emotional problems and general mental health. In addition, one item (health transition) measures perceived changes in health during the past year. The values of each sub score are computed into a scale from 0 to 100, with higher scores indicating better functioning or freedom from pain.

The Norwegian translation has been validated in patients with rheumatoid arthritis. It was confirmed as valid for the measurement of changes in patients with injuries and is recommended to measure HRQOL in trauma patients. Data available from the Norwegian normal population were used to compare the scores on each dimension. At the first measurement point, only three dimensions of the SF-36 were used (bodily pain, physical function and role physical), and the patients were asked to answer these questions retrospectively, as they remembered how it was before the injury. These three dimensions were chosen as retrospective measures because we assumed they were those least likely to be influenced by a recall bias.

The Life Orientation Test-Revised (LOT-R) measures life orientation (optimism/pessimism) at baseline. It consists of 10 items: six target items and four fillers. Life orientation is defined as reflecting generalized positive and negative outcome expectancies, considering optimism and pessimism, respectively, as dispositional personality traits. The six target items are computed into a sum score, which range from 0 to 24, where higher scores indicate optimism and lower scores indicate pessimism. The 15-item Impact of Event Scale (IES) measures PTS symptoms. It measures intrusion using seven items and avoidance using eight items that are scored from 0 to 5, with a total score ranging from 0 to 75, higher scores indicating more PTS symptoms.

The Hospital Anxiety and Depression Scale (HADS) measures symptoms of anxiety and depression. It consists of 14 questions– seven questions measure anxiety and seven measure depression, each rated from 0 to 3–and it has shown good psychometric properties in different patient populations. Both subscales have scores from 0 to 21.

The Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS) measure the severity of injuries. The AIS classifies each injury according to body region on a scale from 1 (minor) to 6 (currently untreatable). An AIS score $\geq$ 3 is regarded as serious. The ISS yields scores from 1 to 75 for the overall severity of injuries and is the sum of the square of the AIS for the three most serious injuries in different ISS body regions.[15-20]

CORRELATION BETWEEN PSYCHOLOGICAL DISTRESS AND PHYSICAL COMPLAINTS

Zatzick and colleagues compared psychological distress and health-related quality of life in 101 hospitalized trauma patients. One year after injury, 30% of the patients (n = 22) met symptomatic criteria for posttraumatic stress disorder (PTSD). Compared with patients without PTSD, patients with PTSD demonstrated significant adverse outcomes in 7 of the 8 domains of the SF-36.[15]

In a survey of 2606 patients with shoulder pain, Badcock and colleagues identified that psychological distress scores correlated significantly with physical complaints of pain ($p = 0.002$).[16]

In another study, Cho and colleagues identified significant differences in prevalence of musculoskeletal symptoms between students (n = 471) with high and low psychological distress levels.[17]

Starr and colleagues conducted a study of 588 patients and found that 51% of patients met criteria for PTSD. Specifically, patients scored higher on questions pertaining to avoidance ("cannot enjoy the company of others," "cannot enjoy things I used to").[18]

RADIAL FRACTURES:

MacDermid and colleagues followed 120 patients with distal radial fractures for 6 months after injury. After adjusting for age, sex, education level, Müller AO fracture classification and pre- and postreduction radial shortening, the strongest predictor of pain and disability was the combined variable of ongoing litigation or claiming compensation.[19]

Other studies on radial fractures have also observed that clinical variables provide limited prediction for post trauma disability. Michaels and colleagues surveyed 247 trauma patients without significant neurotrauma at 1 year post injury. They found significant negative associations between ongoing litigation and workers' compensation claims and functional scores (Sickness Impact Profile subscales).[20]

Mock and colleagues followed a cohort of 302 patients with lower extremity fractures over a 1-year period and found that the degree of physical impairment predicted only a small amount of the variance in disability. Significant predictors of disability were older age, lower socioeconomic status, poor health prior to injury, low social support, having hired a lawyer and involvement with workers' compensation.[21]

HIP FRACTURES

Hip fractures are a major cause of morbidity and mortality, and almost all occur after a fall. In the next 50 years the number of hip fractures will probably increase greatly.[22,23]

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. Many of the people 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.[23-25]

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.[26]

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 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.[27]

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. 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. 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.[29,30]

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. 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.[31]

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.

CONCLUSION

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. Increased knowledge of health related quality of life predictors after trauma may enable us to optimize and individually tailor interventions at an early stage in treatment and rehabilitation.

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