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BIO*PSYCHOSOCIAL* FACTORS: WITH AN EMPHASIS ON PSYCHOSOCIAL

TAKING OUR PULSE

In previous Medigrams, we have discussed the biopsychosocial model of pain, which essentially postulates that the perception of pain is modulated by psychological determinants as well as by social, cultural and even economic factors. This issue takes a closer look at the research defining how psychosocial factors have been found to influence very specific workers compensation and non-occupational conditions and outcomes.

JUST WHAT THE DOCTOR ORDERED

One study boldly asserts that "anxiety and depression predict musculoskeletal disorders (MSD) in healthcare workers." In this study, measures of pre-existing anxiety/depression were correlated with the subsequent emergence of MSDs in women. There was indeed a correlation, and a very significant one at that. The rate of MSDs was five times higher in individuals with high anxiety/depressions as measured on a standard rating scale. Other risk factors were identified as well. [1]

Another study was focused more specifically on the contributing factors for development of knee pain. This was a meta-analysis, i.e. an aggregate analysis of all other studies (16 of them) done on this topic with a differentiation between high and low quality research methodologies. As you may recall from a previous issue, the "gold standard" for study design is the randomized controlled trial (RCT), and the conclusions of this research were largely driven by the RCTs in the set of published literature that was reviewed by the independent experts. Their conclusion was that there exists a strong relationship between depression (but not anxiety) and knee pain, and that anti-depressant medication was effective in pain reduction. [2]

Turning now from the knee to the shoulder, we find a study which attempted to identify whether psychological factors or the severity of MRI findings were more useful in predicting shoulder symptoms (pain and function) in patients with documented full-thickness rotator cuff tears. The physicians found that a validated mental health scale was more significantly correlated with patient-reported pain and functional limitation than were the severity factors (size of tear, number of torn tendons, etc.) as

depicted in the MRIs. As they note, the implications of this finding on treatment strategies for rotator cuff injuries remains to be studied, but is certainly an interesting question. [3]

Psychosocial factors can be at play in occupational settings as well, not simply in a worker's personal life. A study in Norway revealed that psychosocial working conditions have an impact on "all -cause" sickness absences. The identified factors included: job demands and job control, social reciprocity and fairness, and social interaction between workers and supervisors. [4]

Finally, a recent monograph on chronic pain evaluated the social and economic factors underlying this condition. These include age, gender, education, and numerous other predictors which are described in further detail below. [5]

The key message is that an awareness of psychosocial and economic factors is a critical element in understanding the context of symptoms and disability, and that coping and treatment strategies need to be tailored accordingly. Broadspire's managed care programs recognize these issues and our multidisciplinary teams and solutions address them. Predictive models and rating scales are utilized for early identification of high-risk claimants for case management intervention. Targeted approaches such as cognitive behavior therapy, opioid tapering by addiction specialists, and peer review are applied in order to optimize outcomes in these challenging situations.

CIRCULATING IN THE PRESS

Anxiety and depression predict musculoskeletal disorders in healthcare workers

> "There is a high incidence of musculoskeletal disorders (MSD) among healthcare workers (HCW). Our aim was to determine whether MSD are associated with pre-existing anxiety and/or depression. A case-control study was carried out in female HCW (56 cases/55 controls). Cases were HCW with a first-time clinical diagnosis of MSD within the previous two years. Occupation, workplace, work shift, direct patient assistance, and anxiety/depression scores (Goldberg scale) were assessed. An increased risk of incident MSD (multivariate logistic regression) was found in workers with pre-existing anxiety/depression compared to those without them (OR 5.01). Other significant risk factors were direct patient assistance (OR 2.59) and morning work shift (OR 2.47). Pre-existing anxiety/depression was associated with incident MSD in HCW, adjusted for occupational exposure risk factors."

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Are depression, anxiety and poor mental health risk factors for knee pain? A systematic review

> "The study populations were heterogeneous in terms of diagnosis of knee pain. We found a strong level of evidence for a relationship between depression and knee pain, limited evidence for no relationship between anxiety and knee pain, and minimal evidence for no relationship between poor mental health and knee pain.
>
> Knee pain results in significant disability and a substantial reduction in quality of life. Although knee structural abnormalities are associated with knee pain, it is clear that structure alone does not account for knee pain. It has been suggested that psychosocial factors may play an

important role in knee pain. However, previous systematic reviews have only found limited evidence for relationships between both depression and poor mental health and knee symptoms. Our systematic review, which is the first to our knowledge to focus on the role of psychosocial factors in knee pain, found that depression has an important role in knee pain. Specifically, the three RCTs of depression found that the treatment with the antidepressant duloxetine results in a significant reduction in knee pain and is 'proof of concept' that depression has an important role in knee pain. While pharmacological interventions, such as antidepressants may be important in the management of knee pain, non-pharmacological strategies, including cognitive behavioural therapy, may also play a significant role. Future research, particularly in the form of RCTs, is needed to examine the effectiveness of non-pharmacological treatment options for reducing depression in the treatment of knee pain."

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Mental Health Has a Stronger Association with Patient-Reported Shoulder Pain and Function Than Tear Size in Patients with Full-Thickness Rotator Cuff Tears

"The objective of the study was to compare the relationships between patient mental health and objective measures of rotator cuff tear size with patient-reported outcome measures (shoulder pain, function, and shoulder-specific health-related quality of life). In our cohort of patients with full-thickness rotator cuff tears, we found that the patient's mental health as assessed by the SF-36 MCS had the strongest association with several common preoperative patient-reported measures of shoulder health, including the VAS for shoulder pain, VAS for shoulder function, SST score, and ASES score. Measures of tear severity on MRI were not as strongly associated with patient self-assessment on the same scales."

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Psychosocial Working Conditions and Sickness Absence in a General Population

"Psychosocial working conditions influence on worker's health status, sickness absence, and work disability have been extensively studied. High job demands, low job control, and low social support have repeatedly been associated with cardiovascular disease and mental ill health, whereas the associations with musculoskeletal disorders have been less consistent. Sickness absence has also been shown to be associated with each of the factors high demands, low control, and low social support. There is also evidence to suggest an influence from health on both actual and perceived working conditions.

This prospective study of a general working population in Norway from 2006 to 2008 indicated a higher risk of sickness absence more than 4 weeks with increasing job demands and a lower risk of sickness absence with increasing job control and increasing support in the workplace. In addition, being subjected to bullying/harassment in the workplace was associated with a higher risk for sickness absence, especially for sickness absence because of mental disorders in women."

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Socioeconomic Burden of Chronic Pain

"Although the risk for developing chronic pain is universal, there are specific patient populations that are disproportionately vulnerable to, and undertreated for, pain. Increased vulnerability to pain is associated with numerous factors, some of which include sex, age, race and ethnicity, income and education, geographic location, and cognitive impairments.

The prevalence of chronic pain is higher among women than among men – a trend that is apparent across different ethnicities and illnesses. Women are more likely than men to experience greater pain severity and to develop certain chronic pain conditions, including chronic fatigue syndrome, endometriosis, fibromyalgia, vulvodynia, and interstitial cystitis – many of which may occur concurrently.

In addition, there is a marked disparity in the prevalence of several common types of musculoskeletal pain in women compared with that in men. For example, severe headaches were reported in 21.9% of women versus 10.1% of men; neck pain was reported in 17.5% of women versus 12.6% of men; and low back pain was reported in 30.1% of women versus 26.0% of men. Furthermore, chronic pain is found to be more common with increasing age; the prevalence of chronic pain among the elderly ranges from 18% to 57%. Poor socioeconomic status is also linked to higher prevalence of chronic pain.

Population-based studies have similarly shown an inverse relationship between chronic pain prevalence and socioeconomic status, which is typically measured by education, employment, and poverty levels. For example, an individual without a high school diploma or a general equivalency degree was 1.33 times more likely to experience severe headaches and 1.28 times more likely to suffer from low back pain compared with an individual with at least some college education. In addition, an individual who was below 100% of the poverty level was 1.76 times more likely to experience severe headache or migraine and 1.48 times more likely to suffer from low back pain compared with an individual who was at least 400% of the poverty level."

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