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Research Article

TEMPORAL ANALYSIS OF THE PREVALENCE OF OSTEOARTICULAR PAIN AND MENTAL HEALTH

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Melissa Alves Aires Marques
Medical Student At The University Iguaçu - Unig, Itaperuna, Rj, Brazil

Bianca Gabriella De Oliveira
Medical Student At The University Salvador - Unifacs, Salvador, Ba, Brazil

Allan Rodrigues Corsini
Resident Doctor Psiquiatria Pela Secretária Municipal De Saúde De Vitória Da Conquista, Ba, Brazil

Cícero Azevedo De Moraes Filho
Medical Student At The Uninassau, Recife, Pe, Brazil

Paloma Pinheiro De Aquino Peixoto
Medical Student At The Uninassau, Recife, Pe, Brazil

Fabricio Negreiros Holtz
Doctor Orthopedist And Traumatologist No Hospital Universitário De Nova Iguaçú(Unig), Rio De Janeiro, Rj, Brazil

Rafael Costa Nerys
Doctor Orthopedist And Traumatologis No Hospital Estadual De Urgências De Goiás - Dr Valdemiro Cruz(Hugo),Goiânia, Go ; Shoulder And Elbow No Hospital Das Clínicas Da Ufg, Goiânia, Go, Brazil

Laís Cristina Pereira Da Silva
Medical Student At The University Salvador - Unifacs, Salvador, Ba, Brazil

Marcella Rodrigues Costa Simoes
Doctor Orthopedist And Traumatologist No Hospital Da Baleia, Belo Horizontes, Mg; Hand And Microsurgery Surgeon No Hospital Maria Amélia Lins(Fhemig), Belo Horizonte, Mg, Brazil

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ABSTRACT

Pain is a difficult to understand and multifactorial condition, defined by the International Association for the Study of Pain (IASP) as "an unpleasant sensory and emotional experience associated with a real injury or described in such terms." When acute, it has an important biological value in preserving the integrity of the individual by alerting them to the occurrence of an injury, while chronic pain does not have this characteristic. It is considered a public health problem because it causes temporary or permanent disability, absenteeism, high costs to the health system and morbidity. It is estimated that the prevalence of chronic pain in the world is around 10.1 to 55.5%, with an average of 35.5%.Several studies have investigated the causal nature of this association and point to a bidirectional relationship. This is a literature review with the application of an anonymous questionnaire.Orthopaedic surgeons and musculoskeletal clinicians have given importance to mental health in patient recovery after injury or orthopaedic surgery, since pain after these events is common, and can trigger a new mental illness or its worsening. We therefore conclude that interventions to assess pain and mental health should be prioritized, in addition to the greater involvement of psychiatrists and psychologists in this process.

KEYWORDS

Pain; Osteoarticular pain; Chronic pain; Mental health; Psychological.

INTRODUCTION

Pain is a difficult to understand and multifactorial condition, defined by the International Association for the Study of Pain (IASP) as an "unpleasant sensory and emotional experience associated with a real injury or described in such terms" (Witte, Stein, 2010). When acute, it has considerable biological value in terms of preserving the individual's integrity, as it is a symptom that warns of injuries to the body; chronic pain does not have this characteristic (Teixeira, 2001). Because it generates temporary or permanent disability, absenteeism, high costs to the health system and morbidity, pain has been considered a public health problem (Picavet, Schouten, 2003).

The IASP clarifies that the best criterion for differentiating between chronic and acute pain is three months of occurrence of the condition, but for research purposes suggests a period of six months(Merskey, Bogduk, 1994).The prevalence of chronic pain in the world is estimated to be around 10.1 to 55.5%, with an average of 35.5%(Harstall, Ospina, 2003). In Brazil, although there are not many epidemiological studies, some studies confirm an incidence similar to that estimated by the IASP (Cipriano, Almeida, Vall, 2011).

Pain is influenced by both biological and psychosocial factors (Goesling, et al., 2018). Historically, the biomedical model of treatment for chronic pain focused on relieving physical symptoms, indicating surgical interventions, injections and/or medications to patients (Goesling, et al., 2018). However, less than half of patients improve after most surgical and drug interventions, especially the use of epioids, due to their limited long-term benefits and high risks (Kalso, et al., 2004; Furlan, et al., 2006). However, over the last few decades, the field of pain has evolved and begun to recognize the role of psychosocial factors in the way chronic pain is treated and contextualized. This change has helped to reinforce the role and importance of

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psychology and psychiatry in the context of treating this injury (Goesling, et al., 2018).

Today, the comfort of chronic pain and psychiatric diagnoses has been well established (Miller, Cano, 2009). Several studies investigate the causal nature of this association and point to a bidirectional relationship(Kroenke, et al., 2011). That is, patients may develop a mental health problem, such as anxiety or depression, as a consequence of living with this injury(Nicassio, Wallston, 1992), and the presence of a mental health diagnosis is pointed out as a risk factor for the development of chronic pain(Gureje, Simon, Von Korff, 2001).

Patients with anxiety and depression report greater pain intensity (Goesling, et al., 2015). Inflammation may be a biological pathway through which depression is related to pain. Depression is associated with increased levels of inflammatory markers such as C-reactive protein, interleukin 6 and 11, even in patients who are not clinically depressed. Thus, this pathology may cause inflammation, inflammation may lead to depression, or there may be a bidirectional pathway (Sullivan, et al., 2005). The causal pathway from depression to inflammation includes elevated sympathetic and decreased parasympathetic nervous activity and prostration behavior (Braden, et al., 2009).

Some studies show that reducing the severity of depression causes a reduction in pain(Seal, et al., 2017). In addition, antidepressant drugs have documented analgesic effects, even when the patient does not have depression(Simon, 2012). Therefore, many guidelines, including the Centers for Disease Control and Prevention Guideline for Prescribing Opioids for Chronic Pain(Hudson, Pope, 1994), recommend treating patients with depression with an antidepressant as a form of non-opioid pain management strategy or to complement opioids in a multimodal regimen.

Also, treating patients with depression with antidepressants can increase the success rate of gradual reduction and discontinuation of opioids (Clauw, et al., 1997). Anxiety and depression are associated with high rates of prolonged opioid use, increased use and consequences of using this medication(Helmerhorst, et al., 2014; Carroll, et al., 2012; Cochran, et al, 2014; Cochran, et al, 2014). Highlighting the need for effective pain control and minimizing the risk and use of opioids in patients with mental illness(Wally, Hsu, Seymour, 2022). This paper aims to review the literature on the correlation between mental health and pain, conducting a temporal analysis of prevalence and providing possible interventions.

METHOD

This is a literature review, using the databases Pubmed, Lilacs, Scielo and Sciencedirect, using the Health Science Descriptors (DeCs), the descriptors: "pain", "chronic pain", "mental health", "wounds and injuries", "osteoarticular injuries" and "musculoskeletal injuries". We selected 11 articles that best met the study criteria, available in Portuguese, English, Spanish and French, published between 1994 and 2022. In addition to a cross-sectional data collection through digital media with an anonymous form that does not require submission to the research ethics committee (INSPIRED BY THE METHODOLOGY OF THE FAHRENHOLTZ IL ARTICLE, 2022).

RESULTS

A health questionnaire was carried out and 31.9% of the participants had some previous illness or were taking daily medication. Of these, 52.5% had psychiatric

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disorders (anxiety, depression, ADHD, bipolar disorder, autism, burnout, schizophrenia), 20.7% had respiratory illnesses and 20.3% had musculoskeletal disorders. In addition, 89.7% consider their work routine to be stressful; 84.9% feel anxious; 66.5% feel unwell on a daily basis and 44.3% have changes in their sleep-wake cycle pattern, which has an abrupt impact on their quality of life.

The literature shows that anxiety and depression are frequent pathologies with a high prevalence, exposing society to a risk of developing chronic diseases and a greater psychological condition. It is possible to state that obese women tend to develop more mental health disorders when compared to healthy women. In line with this, a WHO study found that 30% of workers suffer from common mental disorders, while 5% to 10% suffer from serious disorders.

Physical inactivity causes a decline in self-esteem, self-image, well-being and sociability. In addition, mental health disorders can cause intense suffering, work dysfunction, problems in carrying out day-to-day activities, as well as difficulty in social, family and occupational interaction. People with higher levels of physical activity were found to be 17% less likely to suffer from depression than those who were less physically active, and 26% less likely to suffer from anxiety.

DISCUSSION

Orthopedic surgeons and musculoskeletal clinicians have become more aware of the importance of mental health in patient recovery after injury and surgery (Wally, Hsu, Seymour, 2022). Orthopaedic trauma patients have rates of mental disorders as high as 45%(Simske, et al., 2020) and patients with mental health issues have worse outcomes, including pain.Simultaneously, orthopaedic surgeons are looking to decrease the use of opioids due to adverse effects and the risk of addiction(Wally, Hsu, Seymour, 2022). Pain is an indicator of mental illness in the year following traumatic injury(Castillo, et al., 2013).

Depression is associated with many adverse outcomes, including increased opioid consumption(Helmerhorst, et al., 2014), worse patient-reported outcomes(Haupt, et al., 2018), high complication rates(Cancienne, et al., 2017) and longer hospital stays(Seymour, et al., 2016). Therefore, interventions aimed at addressing both pain and patient mental health are essential tools for optimizing outcomes(Wally, Hsu, Seymour, 2022).

Pain after an injury or orthopedic surgery is common, and can trigger a new or worsening mental illness among orthopedic trauma patients(Castillo, et al., 2013; Lee, et al., 2015).Although it is difficult to determine causality, pain may be a mediator in the correlation between physical function and depression among orthopedic injury patients, since pain is one of the main factors contributing to poor physical function during recovery. Depression scores increase in patients with worse physical function(Crichlow, et al., 2006).In addition, pain is associated with long-term disability, such as returning to work or activity and decreased satisfaction, negatively affecting the individual's mental well-being(39,40,41-art4). (O'Toole, et al., 2008)

Patients with this prolonged injury are more likely to take longer to resolve their pain after the surgical procedure than other surgical patients, and patients who use opioids have more postoperative pain during recovery(Chapman, et al., 2011). Thus, preoperative opioid use and chronic pain are important risk factors for prolonged pain and poorer mental health after an acute injury (Wally, Hsu, Seymour, 2022). The effect of pain on mental health is particularly evident in elective orthopedic patient populations, with individuals who

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experience pain relief from lumbar surgery or total joint arthroplasty also experiencing a reduction in depressive symptoms and an improvement in mental health(Hirschmann, et al., 2013; Lavernia, et al., 2012; Blackburn, et al., 2012; Skolasky, 2012).

Pharmacological treatments for chronic pain are not all the same. It is important to note that the current treatment guidelines of the Centers for Disease Control (CDC) do not indicate the use of opioids for chronic pain and state that these drugs should only be used as a last resort after all other therapeutic options have been exhausted (Goesling, et al., 2018). Numerous review articles and meta-analyses have concluded that antidepressants are recommended as the first line of treatment, as they have a moderate analgesic effect (Hauser, et al., 2012; Mercier, et al., 2013).

One of the most researched non-pharmacological therapies for chronic pain is cognitive behavioral therapy (CBT). It focuses on the relationship between cognition, emotion and how these interact with pain relief and physical functioning, aiming to provide psychoeducation on chronic pain management and target key psychological and behavioral factors (Goesling, et al., 2018). The effectiveness of this therapy as a therapeutic option is well established, with numerous meta-analyses and reviews on this topic (Mercier, et al., 2013).

CONCLUSION

Pain and poor mental health after orthopedic trauma are linked in a two-dimensional relationship, and both are related to worse surgical outcomes, such as prolonged hospitalization, high complication rates, worse post-operative outcomes and increased opioid consumption. Therefore, orthopaedic surgeons should prioritize interventions to assess pain and mental health, in addition to the greater involvement of psychiatrists and psychologists in this process. Balancing comfort and safety in the midst of a drug overdose epidemic is a challenge, and many doctors don't feel comfortable addressing mental health or don't have the necessary resources.

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