

KINESIOPHOBIA AND PAIN IN PATIENTS IN THE IMMEDIATE POSTOPERATIVE PERIOD AFTER LOWER LIMB TRAUMA: A CROSS-SECTIONAL STUDY

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ABSTRACT

Trauma is a significant cause of disability, especially when it involves lower limbs, highlighting the importance of managing postoperative pain and the psychological factors associated with recovery. Thus, the objective was to evaluate the occurrence and association between the level of pain and kinesiophobia in patients in the immediate postoperative period after lower limb trauma. A cross-sectional study with quantitative analysis was conducted at a reference orthopedic hospital, following approval by the CEP (No. 6970562), and investigated the relationship between age, sex, pain, and kinesiophobia in 92 volunteer postoperative patients. The Visual Analog Scale for Pain (VAS) and the Tampa Scale for Kinesiophobia were used, revealing that the majority of volunteers presented moderate levels of both kinesiophobia and pain. However, no significant association was found between the factors sex and kinesiophobia ($p=0.711$), between VAS and the presence of kinesiophobia ($p=0.937$), nor between VAS and sex ($p=0.785$). The results indicate the need for further studies to better understand the interaction between psychological factors and post-trauma recovery.

Keywords: Pain perception; Lower limbs; Postoperative period; Functionality.

INTRODUCTION

Trauma, especially in Lower Limbs (LL), has a significant impact on functionality [1] and short- and long-term disability in adults [2]. In surgical cases, uncontrolled pain is a significant risk factor for the development of chronic pain [3],

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which highlights the importance of treating postoperative pain [4], as it can be influenced by pain catastrophizing and psychological factors [5].

A common psychological reaction after an injury or surgery is the fear of movement, termed kinesiophobia [6], which becomes problematic as pain transitions from an acute to a chronic state [7]. High levels can predispose to avoidance behaviors, physical inactivity, and deterioration of health, impacting rehabilitation and triggering a vicious cycle [8], with disabilities and worsening of the pain condition and quality of life [9].

Although historically, rehabilitation has focused on physical recovery, psychological factors are important as they affect the recovery process [10]. Thus, this study aims to evaluate the occurrence and association between the level of pain and kinesiophobia in postoperative patients after lower limb trauma, in a reference hospital for orthopedics in the north-central region of Goiás.

METHODOLOGY

This is a cross-sectional field research, with quantitative and epidemiological analysis of lower limb trauma, to examine the occurrence of pain and kinesiophobia in volunteers during the immediate postoperative period. The research was conducted at a reference orthopedic unit located in the north-central region of Goiás, following approval by the Research Ethics Committee (No. 6970562) and included volunteers aged 18 to 60 years, of both sexes, in the postoperative period for lower limb trauma, who consented to participate through the Informed Consent Form (ICF), considering their availability and recovery time from anesthesia.

For the assessment of kinesiophobia, the *Tampa Scale of Kinesiophobia* (TSK) [11] was used, consisting of 17 questions about pain and symptom intensity, with a score ranging from one to four points. The final questionnaire score can range from 17 to 68 points, and the higher the score obtained, the worse the degree of kinesiophobia [12]. When calculating the final score, with the inversion of the scores for questions 4, 8, 12, and 16, kinesiophobia was classified as mild with a score between (17 to 34 points), moderate (35 to 50 points), or severe (51 to 68 points) [13]. To assess pain scores, the Visual Analog Scale (VAS) was used, an objective measure of the severity of postoperative pain

[14]; the data were categorized into 0-3 (no pain or mild pain), 4-7 (moderate to severe pain), and 8-10 (very severe or maximum pain).

Statistical analysis included descriptive methods (relative and absolute frequency) and the Chi-square test, involving 92 volunteers with a mean age of 39.18 years (+11.28), of whom 63 (68.5%) were male and 29 (31.5%) were female.

RESULTS

Various lower limb traumas were observed, with 81.5% of individuals presenting kinesiophobia, and 71.7% manifesting a moderate level of this condition. The relationship between sex and kinesiophobia indicated that 79.3% of the female population presented kinesiophobia, compared to 82.5% of the male population. Among men with kinesiophobia, 17.5% had severe kinesiophobia. However, there was no significant association between sex and kinesiophobia ($p=0.711$).

Regarding the VAS, only a small percentage of the female (10.3%) and male (6.3%) populations reported very severe or maximum pain. Furthermore, moderate pain predominated in both sexes, with 72.4% of females and 71.4% of males reporting this level of pain. However, no significant association was identified between VAS and the presence of kinesiophobia ($p=0.937$), or between VAS and sex ($p=0.785$). That is, in this research, pain intensity and the presence of kinesiophobia did not show a significant association, regardless of sex. However, this result may be influenced by the medication prescribed for pain control, commonly used in orthopedic surgeries [15].

Although no significant association was identified between pain intensity and kinesiophobia, both can negatively impact the patient's rehabilitation process [16]. Kinesiophobia, even without being directly related to pain intensity, can lead patients to avoid movements essential for recovery, prolonging immobilization time and compromising functional gains. The inactivity resulting from the fear of moving can lead to a decline in muscle strength and atrophy [17] and physical conditioning, increasing the risk of complications and delaying the return to daily activities [18]. Thus, it is fundamental that physiotherapeutic treatment is not limited to pain management but considers psychological factors and includes approaches that help promote greater treatment adherence and considers psychological factors.

CONCLUSION

A high prevalence of moderate levels of kinesiophobia and pain was identified in patients in the immediate postoperative period after lower limb trauma. The results suggest that psychological factors, such as kinesiophobia, are not directly associated with pain or sex, indicating the need for further research in this field.

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