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The impact of childhood adversity on psycho-emotional disorders, subjective measures of pain, and quality of life in patients with chronic pain: a systematic review of the literature.

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 February 2024 and was last updated on 05 February 2024.

INTRODUCTION

Review question / Objective Primary objective: To synthesise the existing literature on Adverse Childhood Experiences (ACEs) in relation to chronic pain, specifically examining their impact on patients' psycho-emotional state, subjective pain measures (in terms of pain perception and cognitions related to pain) as well as quality of life (QoL).

Secondary objective no1: To determine, whether psycho-emotional variables (e.g., anxiety; depression; PTSD) mediate the relationship between ACEs and subjective pain measures.

Secondary objective no2: To determine whether the nature and frequency of ACEs have the potential to modulate the psycho-emotional state, subjective pain measures, and quality of life in individuals experiencing chronic pain.

Rationale In recent years, numerous studies have revealed the significant role of adverse childhood experiences (ACEs) in various aspects of life, including the development of persistent pain and various mental health conditions. We aimed to synthesise for the first time the impact of ACEs on psycho-emotional disturbances, pain outcomes (in terms of pain perception and pain cognitions) and quality of life (QoL) in people with chronic pain, and to determine whether there is a mediating role of psycho-emotional disturbances in the relationship between ACEs and chronic pain. It is vital to target this research gap in order to better understand the complex mechanisms involved in chronic pain research and management. This understanding could lead to the development of more effective interventions aimed at improving the management of individuals exposed to ACEs and suffering from chronic pain.

Condition being studied Populations meeting the definition of chronic pain (≥ 3 months), including musculoskeletal pain (e.g., back pain, neck pain, etc.) and somatoform pain (e.g. migraines, fibromyalgia, etc.).

METHODS

Search strategy In line with our research criteria, we searched for relevant articles in four databases: PubMed, PsychINFO, EMBASE, and Web of Science.

The search terms used were:

- 1) AB ("Chronic Pain" OR "Pain Chronic" OR "Widespread Chronic Pain" OR "Chronic Pain Widespread" OR "Chronic musculoskeletal pain")
 - 2) AB ("adverse childhood experience*" OR "adverse childhood trauma*" OR "childhood trauma*" OR "traumatic childhood experience*" OR "childhood traumatic experience*" OR "adolescent trauma*" OR "Early Life Stress" OR "life stress early" OR "ACEs" OR "childhood adversit*" OR "Physical Abuse" OR "Physical Neglect" OR "Emotional Abuse" OR "Emotional Neglect" OR "Sexual abuse" OR "Physical punishment" OR "Physical torture" OR "Parental substance misuse" OR "Parental substance abuse" OR "Mental illness" OR "parental addiction*" OR "Domestic Violence" OR "Intimate Partner Violence" OR "Parental separation" OR "Parental divorce" OR "Family dysfunction" OR "Parental death" OR "Parental Incarceration" OR "Foster Home Care" OR "Poverty" OR "Racial segregation" OR "Social Discrimination" OR "Bullying" OR "Community violence" OR "Social Isolation")
 - 3) AB ("psychological disorder*" OR "emotional disorder*" OR "Depression" OR "Anxiety" OR "psychological distress" OR "Perceived distress" OR "Post traumatic stress disorder" OR "PTSD" OR "traumatic memor*" OR "Traumatic stress" OR "retraumatization" OR "retraumatisation")
 - 4) AB ("Pain Perception" OR "pain intensity" OR "pain affect" OR "pain interference" OR "Chronic Pain Acceptance" OR "pain belief*" OR "pain cognition*" OR "perceived life control" OR "fear avoidance" OR "pain disability")
 - 5) AB ("Quality of Life")
- #1 AND #2 AND (#3 OR #4 OR #5).

Participant or population The target population was adults ≥ 18 years of age, suffering from persistent musculoskeletal or somatoform pain for ≥ 3 months and with a history of childhood adversity.

Intervention N/A.

Comparator N/A.

Study designs to be included This review relies on observational studies conducted in the general population or in primary care settings, including cross-sectional, case-control or cohort studies (retrospective or prospective, longitudinal and population-based) and exploratory studies using quantitative sensory tests.

Eligibility criteria This review relies on observational studies conducted in the general population or in primary care settings, including cross-sectional, case-control or cohort studies (retrospective or prospective, longitudinal and population-based) and exploratory studies using quantitative sensory tests.

Information sources Relevant articles found in four electronic databases were considered for inclusion: PubMed, PsychINFO, EMBASE and Web Of Science. Systematic reviews and meta-analyses, grey literature, dissertations, theses, conferences and books were not taken into consideration for this review.

Main outcome(s) A total of 18 articles were included in this study. The results indicate that almost half of people suffering from chronic pain experienced at least one adverse event during their childhood. ACEs have been associated with comorbid chronic pain conditions and the development of psycho-emotional disorders such as depression and anxiety. The majority of included studies reported the significant negative impact of ACEs on subjective measures of pain. ACEs have also been associated with higher disability scores and worst symptom severity. Several authors have explored the mediating role of psycho-emotional disorders in the relationship between ACEs and pain, and the results suggest that the mediating effects appear to be partial and may depend on certain types of chronic pain. In addition, the impact of ACEs differs significantly according to their accumulation or specificity. Lastly, it should be noted that sexual and physical abuse were found to be more frequently significant than other types of ACE across the different factors studied.

Data management This review was conducted following the PRISMA guidelines for systematic reviews and meta-analysis. Relevant articles extracted from the four databases were added to Zotero to ensure efficient data processing and a streamlined search flow (Ahmed & Dhubaib, 2011). Two independent researchers, G.A. and A.C., first eliminated duplicates, then used a pairwise

selection process to choose appropriate articles for inclusion. Initially, articles were sorted according to titles and abstracts, before continuing with the analysis of full-text studies. It should be noted that any addition or rejection of an article was to be made only after consultation between the two collaborators.

Quality assessment / Risk of bias analysis The risk of bias in cross-sectional studies was assessed using the AXIS assessment tool, and in case-control studies, tool 4 of the SIGN methodological checklist (Downes et al., 2016; SIGN, 2012). The Johanna Briggs Checklist for Analytical Cross-Sectional Studies checklist was also used to evaluate the quality of the included longitudinal studies (Martin 2017). All studies were reviewed by two independent reviewers (A.G. and A.C.), with any differences handled through consensus.

Strategy of data synthesis Both researchers independently identified topics of interest by linking the variables of interest. A final consensus was reached on the topics of discussion through the participation of all authors.

Subgroup analysis N/A.

Sensitivity analysis Both researchers independently identified topics of interest by linking the variables of interest. A final consensus was reached on the topics of discussion through the participation of all authors.

Language restriction Articles published in languages other than English and French were excluded from this review.

Country(ies) involved France.

Keywords Adverse childhood experiences, chronic pain, psycho-emotional disorders, subjective pain measures, quality of life, systematic review.

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