

# Exposure to adverse childhood experiences is associated with poor analgesia-related outcomes.

## The impact of adverse childhood experiences on analgesia-related outcomes: a systematic review

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### DEFINITIONS



**Adverse childhood experiences (ACEs)** are potentially stressful events or environments that occur before the age of 18 (e.g. abuse, neglect, household challenges).



**Analgesia-related outcomes** are consequences arising from the relating to the use, benefits, and harms of analgesic medications (e.g. side-effects, hospital admissions).

### BACKGROUND

47%

The proportion of adults in the UK that have been exposed to at least one ACE<sup>1</sup>.



There is a dose-dependent relationship between ACE exposure and chronic pain in adulthood<sup>2</sup>.



How ACE exposure may influence the management of chronic pain is unclear. In this review we focused on the pharmacological management (analgesia-related outcomes).

### METHODS



Seven databases were searched from inception to 26/09/2023. The search strategy included terms for ACEs, analgesic classes, and 59 analgesics taken from the British National Formulary.



Inclusion criteria: 1) adverse events aged <18 years, 2) analgesia-related outcomes aged ≥18 years, 3) human studies, 4) English language. Exclusion criteria: 1) adversity in adulthood, 2) editorials, case reports, or conference abstracts.



Title/abstract screening, full text review, data extraction, and risk of bias assessment were performed in duplicate. (← Scan QR code for PROSPERO registration)

### RESULTS



From 7,351 identified records, we included 66 studies involving 137,395 participants.

Compared to no/low ACE exposure, high ACE exposure was linked to...



...any analgesic prescription (3/4 studies) and over-the-counter analgesia (1/1 study), partially associated with opioid prescription (3/7 studies), but not associated with sedative use (0/1 study).



...opioid misuse (21/27 studies), severity of opioid misuse (4/4 studies), younger age at opioid initiation (7/8 studies), opioid relapse (1/1 study), and sedative misuse (4/5 studies).



...medication side-effects (5/5 studies), endogenous pain signalling (2/4 studies), lifetime overdose (2/2 studies), and attempted suicide (1/1 study).



No studies assessed whether ACE exposure influenced the benefits of analgesic medications (e.g. effectiveness).

### CONCLUSIONS



Many papers focused on opioid-related outcomes. Other high-risk analgesic classes (e.g. gabapentinoids) were notably absent. More research is required to address these evidence gaps.



The findings reinforce the need to adopt trauma-informed approaches to healthcare, especially in specialties like chronic pain where the prevalence of ACEs is high.

**References:** 1) Bellis MA, et al. Adverse childhood experiences: retrospective study to determine their impact on adult health behaviours and health outcomes in a UK population. *J Public Health (Oxf)*. 2014 Mar;36(1):81–91. 2) Nicolson KP, et al. What is the association between childhood adversity and subsequent chronic pain in adulthood? A systematic review. *BJA Open*. 2023 Jun 1;6:100139.



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