

Mechanical restraint in inpatient psychiatric settings: a rapid review of evidence

Background: Restrictive practice within psychiatric hospital settings is used to maintain staff and patient safety, but there is increasing emphasis on minimising such interventions. This includes mechanical restraint, the *use of a device to prevent, restrict or subdue movement of a person's body, or part of the body, for the primary purpose of behavioural control*. In the UK, its use is usually confined to secure hospitals, but internationally it is more widely used. However, the current patterns of its use, and associated outcomes, are not well understood.

Aims: The current review addressed gaps in evidence by providing an up-to-date review of primary studies reporting the use and associated outcomes of mechanical restraint in adult inpatient psychiatric settings.

Methods: Systematic review methodology was adapted for rapid evidence synthesis. MEDLINE, Embase and PsycInfo databases were searched for English language studies from 1990 - 2023. Included studies were of adults (18-65) admitted to inpatient psychiatric settings. Any primary randomised or observational study was considered for inclusion that reported patterns in the use and/or outcomes associated with the use of mechanical restraint. Qualitative studies were considered for inclusion if they used recognised qualitative methodology and referred to a specific index experience of mechanical restraint.

Results: 83 articles reporting on 73 separate studies 1990 - 2022 were included, from 22 countries. In studies from 2010 onwards prevalence varied within and between countries, from 1% in The Netherlands, to 27% in one Spanish study, 7-13% in Japan and 22-51% in three Chinese studies. Outcomes were inconsistently reported. Risk factors such as younger age, male sex and substance misuse were most consistently associated with restraint. Findings pertaining to ward/staff factors were mixed. Prolonged restraint was associated with pulmonary embolism risk but there was limited other reporting of physical health outcomes. There was promising evidence for implementation of ward-level interventions.

Conclusions: Mechanical restraint remains widely used. Despite this, reporting of outcomes and experiences was limited. Future work should consider detailed case-use mapping, and comparison to other strategies in terms of negative and positive outcomes. Communication barriers and ethnicity as potential risk factors for mechanical restraint should be examined along with ward factors such as staffing patterns for which results were mixed. Studies of experiences should consider trauma history, and incorporate staff and patient perspectives.