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Non-pharmacological strategies for self-directed and interpersonal violence in people with severe mental illness: a rapid overview of systematic reviews

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ABSTRACT

Introduction Self-directed and interpersonal violence among people with severe mental illness has become a health priority. Though non-pharmacological interventions have been investigated, to our knowledge, no summary of all systematic reviews on this topic has been reported. We will conduct a rapid overview of reviews to synthesise evidence available by identifying systematic reviews on non-pharmacological interventions for self-directed or interpersonal violence in people with severe mental illness.

Methods and analysis This is a protocol for a rapid overview of reviews. The overview will include any systematic reviews (with or without meta-analyses) of randomised controlled trials (RCTs) or cluster RCTs that examine the effect of non-pharmacological interventions on self-directed or interpersonal violence in people with severe mental illness. This protocol applies the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) Protocols, the criteria for conducting overviews of reviews in the Cochrane Handbook of Systematic Reviews of Interventions and the criteria for the Cochrane Rapid Reviews. To identify studies, a search will be performed in the following databases: PubMed, EMBASE, PsycINFO, CINAHL, LILACS, SciELO, Web of Science, Scopus, ProQuest, the Cochrane Database of Systematic Reviews through the Cochrane Library and the Epistemonikos database of systematic reviews. The searches date from inception to September 2020. The study selection process will be described using a PRISMA flow diagram, we will assess the quality of evidence in systematic reviews included and the quality of the systematic reviews themselves and the main results will be summarised in categories to provide a map of the evidence available.

Ethics and dissemination No patients or other participants will be involved in this study. The results will be presented at mental health conferences and for publication in a peer-reviewed journal.

Registration details The protocol was registered on the Open Science Framework (https://osf.io/myzd9/).

Strengths and limitations of this study

- This research has potential usefulness for mental health system decision makers.
- This rapid overview protocol was developed considering the Cochrane criteria and additional steps have been included to reduce the risk of bias.
- It will summarise evidence from systematic reviews which include randomised controlled trials.
- As it will only include systematic reviews, there is a risk of missing evidence from recent randomised controlled trials.

INTRODUCTION

The prevalence of severe mental illness has been estimated at 3.7%–4.1% among adults in the USA at different time points between 2008 and 2014.[1] Individuals with severe mental illness 'suffer from severe psychiatric disorders together with long-term mental disturbances, which entail a variable degree of disability and social dysfunction, and must be cared for by means of different social and health resources of the psychiatric and social healthcare network'.[2] The conditions from the International Classification of Diseases, 10th Revision (ICD-10) included in severe mental illness are: schizophrenic disorders, schizotypal disorders, persistent delusional disorders, induced delusional disorders, schizoaffective disorders, other non-organic psychotic disorders, bipolar disorder, major depressive episode with psychotic features, recurrent major depressive disorders and compulsive–obsessive disorder.[3 4]

The WHO defines violence as 'the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation'.[5] The risk of self-directed and interpersonal violence is higher in people with severe mental illness than the general population. Although suicide and violence tend to have been studied separately, there are similarities and a relationship has been found between

suicidal and violent behaviour in people with schizophrenia.[6 7] Further, there is evidence of an association between mental illnesses, such as schizophrenia and related disorders, and higher rates of convictions for violent offences, suicide and premature mortality.[8]

Nearly 8% of people with severe mental illness have perpetrated violence and people with mental disorders are over-represented in prisons, one in seven prisoners being diagnosed with psychosis or depression.[9 10] Notably, patients convicted of homicide were found to have had symptoms of mental illness before the offence.[11]

Risk factors that may contribute to interpersonal violence in people with mental illness include: the diagnosis of schizophrenia, involuntary admissions, a history of violence substance abuse, insight, impulsiveness, psychopathy, motor speed, a global measure of cognition, baseline injurious violence and medication non-adherence.[12–16] Regarding the neurobiological aetiology, frontal and temporal lobe abnormalities are found in people with schizophrenia and aggressive behaviour, and the anterior cingulate cortex plays an important role in violent behaviour in this population.[17 18]

On the other hand, it is important to highlight the stigma surrounding the perception that people with severe mental illness are violent.[19] Further, patients with schizophrenia are at risk of violent and non-violent victimisation and violent victimisation adversely impacts the course of their illness.[20–22] Indeed, victimisation rates are higher in adults with a psychotic disorder than in the general community, and they are more often a victim than perpetrator of violence.[23]

In an ongoing scoping review on this topic, the preliminary findings indicate the use of non-pharmacological interventions related to self-directed or interpersonal violence in people with severe mental illness within randomised controlled trials (RCTs) but there is heterogeneity in interventions. Furthermore, some of these RCTs are included in systematic reviews.[24]

There are systematic reviews on non-pharmacological interventions in people with severe mental illness assessing the effect on interpersonal violence.[25–30] Regarding non-pharmacological interventions, the treatments evaluated in systematic reviews include:

- Mental health advance directives: these allow individuals with mental illnesses to, when their condition allows and they are competent to do so, state their preferences concerning their treatment.[25]
- Crisis intervention: crisis-focused treatment of an acute psychiatric episode.[26]
- Cognitive remediation and social cognitive training: interventions focused on cognition and psychosocial functioning, social functioning by improving participants' social cognition, prosocial skills training and metacognitive skills.[28]
- Compulsory community and involuntary outpatient treatment: follow-up interventions started when a patient is discharged from hospital, in which the patient is supervised and must adhere to the treatment prescribed; otherwise, the health professional may recommend involuntary readmission.[29]
- Psychosocial interventions: covering a wide range of types of treatments of differing intensity and duration that seek to address patients' problems, these interventions include integrated and non-integrated care, motivational interviewing, contingency management, cognitive behavioural therapy (CBT), problem-solving therapy and skills training.[30]

On the other hand, the suicide risk in people with schizophrenia is estimated at 4.9% and in people with bipolar disorder is 20–30 times higher than in the general population.[31 32] Among this population, the common suicide methods are hanging, jumping from a height/in front of a moving vehicle and self-poisoning.[11]

Some of the risk factors for self-directed violence are a family history of suicide, comorbid substance and alcohol use disorder, affective symptoms, number of psychiatric admissions, younger age, closeness to illness onset, older age at illness onset and male sex.[33 34] Concerning the neurobiology, low pregnenolone levels are found in the parietal cortex in people with schizophrenia and bipolar disorder who died by suicide, and there is evidence suggesting associations between the brain-derived neurotrophic factor Val/Met genotype and suicidal behaviour in people with a bipolar disorder and between inferior frontal white matter alterations and both suicidality and self-aggression in people with schizophrenia.[35–37]

Systematic reviews have been carried out to assess the effect of non-pharmacological treatments on self-directed violence in people with severe mental illness.[25 26 30 38–42] Treatments evaluated in these reviews include:

- Community mental health team treatment: a multidisciplinary community-based team which provides care management.[38]
- Intensive case management: community-based long-term care for people who do not require immediate admission.[40]
- CBT: a psychosocial treatment to help people with distressing emotional experiences or dysfunctional behaviour and re-evaluate their appraisals of their experiences.[41]
- Peer support: a recovery-oriented approach that allows people with experiential knowledge of mental illness to give appraisal, emotional and informational support to other patients.[42]

An umbrella review was performed of interventions in general and forensic psychiatry on violence prevention.[43] Nonetheless, this review is not focused on severe mental illness, it does not include self-directed violence, the intervention studies included non-randomised as well as randomised controlled designs, and the search period was until August 2015, and hence, it does not consider more recently published studies such as those of Kisely *et al*, Hunt *et al*, Dieterich *et al*, Jones *et al*.[29 30 40 41] No similar overviews have been found related to non-pharmacological interventions on violence in the context of interest.

RATIONALE

The strategies for interpersonal and self-directed violence in people with severe mental illness vary across systematic reviews. For this reason, it is important to summarise the knowledge available concerning interventions to tackle this complex problem.

Although systematic reviews may help decision makers to interpret the published literature; this may be more difficult, however, when there are several of this type of review. As their number grows, an overview of systematic reviews makes it possible to summarise the evidence on a specific topic.[44] Notwithstanding the existence of several systematic reviews, no overview of systematic reviews has been found related to non-pharmacological interventions on self-directed or interpersonal violence in people with severe mental illness.

Considering the importance of this topic, the lack of a summary of all published systematic reviews, and that such a summary would be of the interest to healthcare practitioners, mental healthcare systems and policy makers, we will conduct a rapid overview of reviews to synthesise evidence available by identifying systematic reviews on this topic.[45]

OBJECTIVE

This rapid overview aims to summarise the evidence from systematic reviews regarding the effects of non-pharmacological interventions for self-directed or interpersonal violence in people with severe mental illness in any setting.

REVIEW QUESTION

Which non-pharmacological interventions for self-directed or interpersonal violence are effective for people with severe mental illness?

METHODS

Protocol and registration

This protocol was drafted considering the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 guidelines, as indicated in online supplemental file 1).[46] This is a rapid overview; therefore, some elements necessary for a full overview of systematic reviews are simplified. Nonetheless, this protocol follows the criteria for conducting overviews of reviews in the Cochrane Handbook of Systematic Reviews of Interventions, and the criteria for the Cochrane Rapid Reviews with steps to reduce the risk of bias.[47–49]

The protocol has been reviewed by the research team and it was registered on the Open Science Framework (https://osf.io/myzd9/).

Patient and public involvement

Ethics approval is not required for this rapid overview as no patients will be involved in this study.

Criteria for considering reviews for inclusion

Systematic reviews will be selected using the following criteria.

Types of studies

We will include systematic reviews (with or without meta-analyses) of RCTs or cluster RCTs that examine the effect of non-pharmacological interventions on self-directed or interpersonal violence in people with severe mental illness. Additionally, we will include systematic reviews that include RCTs and non-RCT studies, if they performed separate analyses or data synthesis for the RCTs included.

Exclusion criteria

Publications being a systematic review in which no studies met the inclusion criteria, narrative reviews or clinical practice guidelines that do not meet the definition of a systematic review.[45]

The systematic review criteria to guide the decision to include studies are[45 50 51]:

- A priori specification of a research question.
- Systematic, explicit and reproducible methodology (eligibility criteria, information sources, search, study selection, data collection process and so on).
- Acceptable methods for assessing studies.
- Analysis of the studies included in order to draw conclusions.

Types of participants

Inclusion criteria

Reviews must include adults with a diagnosis of severe mental illness or any condition included in severe mental illness[3]: schizophrenic disorder, schizoaffective disorder, schizotypal disorder, persistent or induced delusional disorder, bipolar disorder, obsessive-compulsive disorder, major depressive episode with psychotic features, recurrent major depressive disorders, atypical psychosis or other non-organic psychosis (according to international classification systems: Diagnostic and Statistical Manual of Mental Disorders or ICD). The criteria established for severe mental illness follow clinical practice guidelines on psychosocial interventions in severe mental illness[3] and eligible methods for identifying the population include clinical diagnosis and research interview, among others. We will also include studies in adults with severe mental illness and substance abuse. Systematic reviews that include other populations not considered in this study will be included if they performed separate analyses or data synthesis for severe mental illness. No restrictions will be placed on the setting.

Exclusion criteria

People with substance abuse alone or with organic mental disorders, dementia, mental retardation or learning disabilities.

Types of interventions

Interventions must be non-pharmacological, in combination or not with another intervention, and for

interpersonal or self-directed violence in people with severe mental illness. Violence should be established in accordance with the WHO definition.[5] There will be no restrictions regarding the duration, frequency, provider or timing of the interventions.

Interventions may be:

- Direct: if they affect patients.
- Indirect: if their influence is not on patients, but is to their benefit.
- Targeting family, professionals or the community or at a public health level.

Exclusion criteria

Instrumental treatments or brain stimulation treatments such as electroconvulsive therapy, transcranial direct current stimulation or transcranial magnetic stimulation.

Concomitant pharmacological treatments will be allowed if they are administered in the same way in all study groups (intervention and control groups).

Comparisons of interest

Another treatment, placebo or treatment as usual (the usual treatment being defined as the normal level of care provided in the area in which the study has been performed).

Types of outcomes

The outcomes of interest are:

Main outcomes:

- Violent behaviour:
  - Interpersonal violence: physical or verbal aggression, physical or verbal threats, psychological or emotional abuse, criminal activity or behaviour (major offences or felony), arrest for violence, assault or property damage.
  - Self-directed violence: suicide attempt, completed suicide or self-harm.

Additional outcomes:

- Disruptive or agitation behaviour.
- Homicidal ideation.
- Suicide ideation or thoughts, suicide plans.
- Substance use: drug use or alcohol use.
- Global, mental and emotional state:
  - Psychiatric symptoms.
  - Functioning.
  - Relapse.
  - Recovery.
  - Well-being, quality of life and life satisfaction.
  - Insight.
  - Self-esteem.
  - Distress.
  - Hopelessness.
  - Anger.
- Health service and treatment:
  - Admissions and discharges.
  - Contacts with mental health services.
  - Use of physical restraints or seclusion.
  - Use of medication.
  - Compliance.
  - Satisfaction with service or care.
- Justice system or police contacts:
  - Offences (minor or less serious offences).
  - Arrests.
  - Drug-related crimes.
  - Convictions (minor or less serious convictions).
  - Incarcerations.
- Economic costs:
  - Direct or indirect costs.
- Adverse events/effects: any general adverse effects or specific adverse effects.
- Leaving the study early.

Search methods for identification of reviews

We will search the following databases for Cochrane intervention reviews and non-Cochrane systematic reviews: PubMed, EMBASE, PsycINFO, CINAHL, LILACS, SciELO, Web of Science, Scopus, ProQuest, the Cochrane Database of Systematic Reviews (CDSR) through the Cochrane Library and the Epistemonikos database of systematic reviews. We will use search terms, MeSH headings and search filters specific to the systematic review or meta-analysis study design.[45] We have developed the initial search strategy for the PubMed database (online supplemental file 2) and will adapt it, as appropriate, for other databases. We will not apply language or date restrictions. We will use RefWorks software to manage the references.[52]

Selection of reviews

One author (MCM-C) will search all of the reviews and will remove any which are not relevant based on the title. If the search of the CDSR retrieves protocols or a Cochrane review is not up to date, we will contact the author team or review group to ask whether a pre-publication version of the study or an updated review is available.[45] If only some of the primary studies within systematic reviews meet the rapid overview's inclusion criteria, we will include these subsets of primary studies in the rapid overview.[45]

Title and abstract screening

We will conduct a pilot exercise using 30–50 abstracts to calibrate and test the review form. To identify the relevant reviews, two reviewers (FJB-R, MCM-C) will conduct dual screening of at least 20% of abstracts and one of them (MCM-C) will screen the remaining titles and abstracts, while the second reviewer (FJB-R) will screen all abstracts excluded.[48]

Full-text screening

Similarly, we will conduct a pilot test using 5–10 full-text articles to calibrate and test the review form. Then, one reviewer (MCM-C) will screen all the full texts retrieved and included to assess them for final inclusion/exclusion and the second reviewer (FJB-R) will screen all full-text articles excluded.[48]

Any disagreements will be resolved by discussion and consensus. We will use Covidence or Rayyan software

programmes to manage the study selection process.[53 54] We will summarise the process of the study selection using a PRISMA flow diagram.[51]

Managing systematic review and primary study overlap

One author (MCM-C) will investigate potential overlap of primary studies between the systematic reviews included. Any overlap detected will be presented as a citation matrix and/or as a Venn diagram.[45]

Further, if overlap is identified, two researchers (FJB-R, MCM-C) will use the information and methodological quality of each review to reach an agreement concerning which data from which review to include within the rapid overview. In brief, the following will be included: all non-overlapping systematic reviews, and among groups of overlapping reviews, the Cochrane systematic review, the most recent, the highest quality, the most relevant or the most comprehensive systematic reviews.[45]

Data extraction and analysis

One reviewer (MCM-C) will perform data extraction for each review using a predefined data extraction form and a second reviewer (FJB-R) will check data extracted for correctness and completeness.[48] The descriptive characteristics of each systematic review and their primary studies will be extracted and reported. The information will be classified under the following categories: author(s), year of publication, country of publication, review title, registration details of the review protocol, number of studies included, design of primary studies included, study population, setting, description of the intervention and the control conditions, outcomes and details of key findings, and methodological quality of the studies.[45]

Any reasons for data missing from systematic reviews will be recorded. To deal with missing or unclear data, the individual trials included in the reviews will be assessed or the author of the original paper contacted.

Assessment of methodological quality of reviews included

We will assess the quality of evidence in systematic reviews included and the quality of the systematic reviews themselves:

Quality of evidence in reviews included

One author (MCM-C) will extract and report Grading of Recommendations Assessment, Development and Evaluation (GRADE) assessments presented in the reviews, if available. These assessments will be presented in the 'Summary of Findings' tables according to the GRADE and recommendations in the Cochrane Handbook for Systematic Reviews of Interventions.[47 55] The GRADE instrument grades the quality of evidence and the strength of recommendations, and it has four levels of evidence (high, moderate, low and very low quality).[56]

Quality of reviews included

The revised measurement tool to assess systematic reviews (AMSTAR-2) will be used to assess the quality of the reviews included by the first reviewer, with full verification of all judgements (and support statements) by the second reviewer. The instrument includes 16 items to evaluate quality dimensions and provide a rating for overall confidence in the results of a review as 'high', 'moderate', 'low' or 'critically low'.[57]

Data synthesis and reporting of findings

Narrative summaries of the data included in each systematic review will be presented in a 'Summary of findings' table as recommended in the Cochrane Handbook for Systematic Reviews of Interventions, including a summary of the quality of evidence.[45 47] The data will be reported as they are presented in the systematic reviews included.[45] If the studies included in the systematic reviews are pooled, the effect estimates, 95% CIs and measures of heterogeneity will be extracted.[45]

To provide a map of the available evidence, the main results will be summarised into categories[45 58]:

- Effective interventions: there is evidence of effectiveness for an intervention.
- Promising interventions: there is some evidence of effectiveness for an intervention; however, more evidence is needed.
- Ineffective interventions: there is evidence of lack of effectiveness for an intervention.
- Probably ineffective interventions: there is evidence suggesting a lack of effectiveness for an intervention; however, more evidence is needed.
- No conclusions possible due to lack of evidence: there is insufficient evidence on the effectiveness of an intervention.

The selection of category will reflect the conclusions of the authors of the reviews included.[58]

ETHICS AND DISSEMINATION

This study does not require ethics approval. A manuscript will be prepared for publication and the results will be presented at mental health conferences.

Contributors MCM-C and FJB-R contributed to the protocol design. MCM-C was the major contributor in writing the manuscript. FJB-R critically revised the content and contributed to the manuscript. All authors gave their final approval of the version to be published.

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Competing interests None declared.

Patient consent for publication Not required.

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