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Review

Non-pharmacological interventions for reducing aggression and violence in serious mental illness: A systematic review and narrative synthesis

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ABSTRACT

Background: For people with mental illness that are violent, a range of interventions have been adopted with the aim of reducing violence outcomes. Many of these interventions have been borrowed from other (offender) populations and their evidence base in a Serious Mental Illness (SMI) population is uncertain.

Aims: To aggregate the evidence base for non-pharmacological interventions in reducing violence amongst adults with SMI and PD (Personality Disorder), and to assess the efficacy of these interventions. We chose to focus on distinct interventions rather than on holistic service models where any element responsible for therapeutic change would be difficult to isolate.

Methods: We performed a systematic review and narrative synthesis of non-pharmacological interventions intended to reduce violence in a SMI population and in patients with a primary diagnosis of PD. Five online databases were searched alongside a manual search of seven relevant journals, and expert opinion was sourced. Eligibility of all returned articles was independently assessed by two authors, and quality of studies was appraised via the Cochrane Collaboration Tool for Assessing Risk of Bias.

Results: We included 23 studies of diverse psychological and practical interventions, with a range of experimental and quasi-experimental study designs that included 7 Randomised Controlled Trials (RCTs). The majority were studies of Mentally Disordered Offenders. The stronger evidence existed for patients with a SMI diagnosis receiving Cognitive Behavioural Therapy or modified Reasoning & Rehabilitation (R&R). For patients with a primary diagnosis of PD, a modified version of R&R appeared tolerable and Enhanced Thinking Skills showed some promise in improving attitudes over the short-term, but studies of Dialectical Behaviour Therapy in this population were compromised by high risk of experimental bias. Little evidence could be found for non-pharmacological, non-psychological interventions.

Conclusions: The evidence for non-pharmacological interventions for reducing violence in this population is not conclusive. Long-term outcomes are lacking and good quality RCTs are required to develop a stronger evidence base.

1. Introduction

Patients with serious mental illness (SMI) are at higher risk of committing acts of violence than the general population [1–3] and are over-represented in the criminal justice setting [4–7] yet the majority of the violence literature pertains to an offending population without mental disorder. People with personality disorder (PD) have similarly increased violence rates and this increases further if the diagnosis is antisocial PD (ASPD) [8]. Previous reviews have presented evidence supporting the efficacy of pharmacological treatments in reducing violence during psychosis [9,10] but issues including non-adherence and non-response to anti-psychotic medications [11] and the aetiological heterogeneity of violence during psychosis [12] may limit the efficacy of pharmacological treatments across the spectrum of violent psychiatric patients and mentally disordered offenders (MDOs).

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Non-pharmacological interventions to reduce violence are delivered to offenders with and without mental disorder but the literature describing their efficacy in an SMI population is scarce. Such interventions are delivered in both healthcare and criminal justice settings on the assumption that MDOs share dynamic risk factors and procriminal thinking styles with the mentally healthy offender population [13] for whom a broader literature for violence rehabilitation exists.

However, MDOs are not standard prisoners; recidivism rates for violence are less than that of the prison population or those with a primary PD diagnosis [14,15]. Nor are they like general psychiatric patients, who are assumed to be more engaged with treatment, more insightful and less violent in comparison with MDOs. MDOs reside at the interface between the healthcare and criminal justice systems, receiving care in diverse settings including prison, hospitals (secure or general) and the community.

In 2004, Blackburn considered the evidence base for psychological interventions for MDOs in the context of the "What Works" literature for offender rehabilitation [16]. He concluded that there was little robust evidence in this specific population and that which was available was limited to short-term outcomes of routine interventions lacking a controlled experimental design.

A recent systematic review [17] provided tentative support for the utility of Cognitive Behavioural Therapy (CBT) in reducing aggressive behaviour in forensic and psychiatric populations with a history of violent behaviour. This review did not target the SMI population exclusively and its focus on CBT may have excluded other potential non-pharmacological approaches.

1.1. Objectives

This study aims to aggregate all non-pharmacological (psychological, legal and social) interventions for reducing aggression and violence in adults with SMI and to assess the efficacy of these interventions.

1.2. Research question

What is the evidence for non-pharmacological interventions in reducing the recurrence of violence (physical violence, verbal aggression, violent attitudes) in people with SMI (specifically affective and non-affective psychosis and/or personality disorder)?

2. Methods

The review was performed as per the PRISMA guidelines [18].

Prior to commencing the review, we performed an on-line literature search to ensure that a similar review had not been published. The Cochrane Review Database, Centre for Reviews and Dissemination (CRD), Campbell Collaboration Library, MEDLINE, EMBASE, PSYCHINFO, Health Management Information Consortium Database (HMIC), Database of Promoting Health Effectiveness Reviews (DoPHER) and the Evidence Based Policing Matrix were searched with the search string *'psychosis OR psychotic OR schizo* AND offen* OR crim* OR violen* OR assault*'*.

No systematic reviews were found which replicate the intention of this study. Previous reviews, which have focussed on violence reduction in a mental health took a broader approach to included diagnoses and outcomes or focus on mixed/exclusively pharmacological interventions [19–21].

2.1. Protocol and registration

The review protocol was registered with the PROSPERO International Prospective Register of Systematic Reviews on 2/5/2014 and can be accessed via the PROSPERO website at http://www.crd.york.ac.uk/prospero/. The PROSPERO registration number for the review is CRD42014009400.

2.2. Eligibility criteria

The review sought to identify papers that evaluated the effect of non-pharmacological interventions on violence outcomes in a population with a specified mental disorder and a history of violence. This would include psychiatric inpatients, outpatients and MDOs in prison. For the purposes of this review, SMI was defined as schizophrenia spectrum disorders, schizoaffective disorder or bipolar disorders. All types of controlled study design were included to increase the number of returns. The search was not limited to any aspect of timing, allowing consideration of the evidence base for the short, medium and long-term. The authors searched for papers published between January 1st 1980 and June 1st 2015.

Inclusion criteria were:

- adults (18 and over) with a primary diagnosis of SMI and/or personality disorder with a history of violence or aggression;
- any form of specific non-pharmacological intervention;
- violence (physical violence, verbal aggression or violent attitudes) as outcome measure;
- published in the English language.

Exclusion criteria were:

- patients with intellectual disability;
- sexual violence;
- emergency management of violence;
- uncontrolled case reports or case series.

2.3. Study selection

Our search strategy was intentionally broad to return a wide range of psychological and social interventions aimed at violence reduction in any setting. It focused on distinct interventions rather than on holistic service models where specific elements responsible for therapeutic change would be difficult to isolate. Emergency management strategies for violence designed to reduce immediate risk (seclusion, restraint) were not included.

In forensic psychiatry patients there is considerable overlap between psychosis and PD, with dual diagnosis being the rule rather than the exception [22,23]. It is therefore pragmatic to extend the research question to include patients with PD, although we consider these results separately due to phenomenological differences between these groups. Dangerous and Severe Personality Disorder (DSPD) is an ill-defined psychiatric construct and was not included, although studies of patients with formal psychiatric diagnoses undergoing specific treatments within a DSPD environment are included.

We were interested in outcomes relating to violence within this population, and sought to include studies which measures changes in acts of verbal or physical aggression, hostile attitudes and rates of violent recidivism. Sexual violence was excluded as the determinants for this kind of violence were thought to differ from that of physical violence. We anticipated some variability in the quality of violence assessments, from objective records of violent incidents to self-report measures of violent attitudes, but elected to include all quantitative measures, which could then be appraised in analysis. Studies that used anger as the sole outcome measure were excluded as anger is deemed a risk factor for (but not a marker of) violence [24]. Studies that solely investigated symptomatic changes of mental illness consequent to an