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<http://mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD007195/frame.html>

Interventions for mood and anxiety disorders, and self harm in young offenders

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Internal sources of support

University of Nottingham, UK

External sources of support

NHS Forensic Mental Health R&D Programme, UK

Acknowledgements

This research was supported by the Forensic Mental Health R&D Programme. We thank Professor Conor Duggan and three anonymous reviewers for advice.
Date next stage expected: 15/08/2009

Contribution of reviewers

EJT, DMW, JS and PV designed the research and secured funding to conduct the review. YOS, SJS and KH helped develop the design. All reviewers contributed to the write-up.

Potential conflict of interest

None.

This review should be cited as: Townsend E, Walker DM, Sargeant S, Stocker O, Vostanis P, Sithole J, Hawton KKE. Interventions for mood and anxiety disorders, and self harm in young offenders (Protocol). *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD007195. DOI: 10.1002/14651858.CD007195.

Background

The mental health of young offenders is of considerable concern. There is good evidence that young offenders in different settings have high levels of mental health problems (Bailey 1995; Dolan 1999; Stallard 2003; Callaghan 2003; Anderson 2004; Carswell 2004; Chitsabesan 2006). Around a third of young men aged 16-18 years who have been sentenced by a court have a diagnosis of mental disorder (Gunn 1991). High rates of mental health problems have been found in incarcerated young offenders (Vermeiren 2003; Farrant 2001). Mood and anxiety disorders are common problems in young offenders (Vermeiren 2003) and suicidal thoughts and behaviours are a particular concern in this group (DoH 2002; Powis 2002; Ruchkin 2003; Carswell 2004; Morgan 2004). These disorders often occur with high levels of comorbidity (Axelson 2001) and mood and anxiety disorders are common in self-harmers (e.g. Haw 2001).

Description of the condition

A brief discussion of the main problems and disorders to be covered in this review follows.

i) Mood disorders - including unipolar and bipolar depression. Unipolar depression is a significant problem both in incarcerated adolescents (Vermeiren 2003) and young offenders managed in the community (Callaghan 2003; Stallard 2003). Prevalence rates of up to 80% have been reported and are of particular concern given the increased risk of suicidal ideation and suicide attempts in this population (Vermeiren 2003). Recent studies have found prevalence rates of bipolar disorder of around 20% in incarcerated young offenders (e.g. Vermeiren 2003). Bipolar disorder also has a strong association with suicide and attempted suicide (e.g. Simpson 1999).

ii) Anxiety disorders. Excessive worry was recently identified as a problem in 22.2% of a sample of inner city young offenders compared to 5.3% in a community sample (Carswell 2004). As Vermeiren (Vermeiren 2003) notes, anxiety disorders have been less frequently investigated in young offenders than other psychiatric problems. Nonetheless, some studies have evaluated the prevalence of anxiety disorders in this group. For example, a study of incarcerated young offenders found anxiety disorder to be present in 52% of male young offenders and 72% of female young offenders (Timmons 1997). Additionally, as Ovaert, Cashel and Sewell (Ovaert 2003) note, young offenders are a special subgroup of adolescents who are commonly exposed to very high levels of violence in both family and community settings. They are therefore a group more likely to suffer from post traumatic stress disorder (PTSD).

iii) Self-harm behaviour. Around a third of those being supervised by the probation service have a history of self-harm (Wessely 1996). In a US study of young offenders aged 14 years, 50% of the sample had experienced suicidal ideation, but only 17% of the sample had received mental health care (Myers 1995). In a study of young people attending a juvenile court, 9% had a history of self-harm (Dolan 1999). Callaghan and colleagues (Callaghan 2003) reported self-harm as a problem leading to referral to a Primary Mental Health Worker in a Youth Offending Team (YOT) for nearly a third (32.5%) of young people. More recently, Knowles and colleagues found that 16% of a consecutive sample of 50 young offenders had self-harmed (Knowles 2006).

Description of the interventions to be examined

In this review we will examine any intervention that has been investigated in relation to mood or anxiety or problems with self-harm in young offenders. A recent study of mental health

needs of young offenders in custody and in the community found that after 'assessment', 'medication' was the most commonly recommended intervention for depression (Chitsabesan 2006). Hazell and colleagues (Hazell 2002) carried out a Cochrane systematic review of tricyclic antidepressants in the treatment of depression in children and adolescents. The authors concluded that these drugs are not useful in treating depression in pre-pubertal children. However, some evidence suggests that SSRIs may be beneficial for childhood depression (Whittington 2004; Hamrin 2005).

A number of different types of psychosocial interventions have also been tried with young people with mood and anxiety disorders. For example, cognitive behavioural therapy (CBT) has been shown to be effective for depressed adolescents (Reinecke 1998) and for adolescents with anxiety disorders (Soler 2005). CBT helps educate young people to recognise possible distortions (such as feeling completely useless in all areas of life) and to evaluate or test them against reality. Irrational thoughts and beliefs are challenged and rational thinking is encouraged to replace them (Kendall 1990).

Group therapies have been tried with young offenders. These types of intervention (e.g., structured group therapy (Ovaert 2003) and cognitive processing group therapy (Ahrens 2002)) have been evaluated in young offenders with PTSD. Problem-solving group therapy has also been assessed in incarcerated young offenders who self-harm (Biggam 2002). Group therapy plus usual care has been shown to be more effective than usual care in decreasing the risk of repeating self harm in adolescents who repeatedly harm themselves (Wood 2001). The effectiveness of family therapy in reducing suicide ideation in children and adolescents who have deliberately poisoned themselves has also been investigated (Harrington 2001). This trial compared a home based family intervention with routine care, although the results indicated that the family intervention did not reduce suicidal ideation.

Despite the high prevalence of mood and anxiety disorders and self harm behaviour in young offenders, the effectiveness of the available interventions in this population is unclear. There is evidence that young offenders, both those incarcerated and those in the community, do not receive the referrals and interventions for mood and anxiety disorders and self harm that they desperately need (Gunn 1991; Stallard 2003; Callaghan 2003; Carswell 2004; Chitsabesan 2006). It is critical that the effectiveness of the available interventions is investigated within the criminal justice system, as young people in these settings are likely to have different and more complex needs than adolescents receiving these interventions outside of the criminal justice system. Furthermore, the vast majority of young offenders are supported in the community, including a large proportion who were previously incarcerated, yet it appears that although incarcerated young offenders and those in the community have similar mental health needs, the needs of community-based offenders are not being met to the same degree as those in custodial settings (Chitsabesan 2006).

A systematic review is needed to determine whether the range of such interventions available to treat mood and anxiety disorders and self harm behaviours in young people are effective in alleviating the symptoms and associated problems inherent in these disorders in the young offending population. This review will evaluate interventions that focus on mood and anxiety disorders, and self harm in young offenders. Given the range of interventions available to treat this group, this review will examine any type of psychosocial or psychopharmacological interventions that have been employed to tackle mood or anxiety disorders or self harm in young offenders.

Objectives

The goal of this review is to identify which interventions should be recommended for the treatment of mood disorders, anxiety disorders and self harm behaviours in young offenders. Specifically, the objectives are:

1. To determine what specific interventions for mood and anxiety disorders, and self harm behaviours are effective for young offenders, and;
2. To determine whether specific interventions are effective in different types of disorder in young offenders (e.g.. depression, PTSD).

Criteria for considering studies for this review

Types of studies

Randomised controlled trials that have published in the time period 1950 to the present.

Types of participants

Incarcerated or community-based offenders (male or female) aged 19 years old or younger. Where young offenders constitute part of the study sample, we will include studies where over 75% of the participants were young offenders. We will include studies where participants have been diagnosed with a mood or anxiety disorder, or where deliberate self-harm has been identified as a problem. We will also include studies where young offenders have been diagnosed with comorbid conduct disorder as this is very highly prevalent problem in the young offending population ([Vermeiren 2003](#)).

Types of interventions

Studies that have examined interventions for mood or anxiety disorders, or self-harm in young offenders will be included. Any type of intervention used with this population will be considered for inclusion in this review (e.g. psychosocial interventions such as CBT, group therapy, family therapy, and psychopharmacological therapies such as antidepressant medication).

- 1) Comparisons of interest to examine the effectiveness of interventions across disorders are
 - i) Group CBT vs. any comparator (including waitlist, no treatment, other psychological interventions, medication, different types of group psychotherapy)
 - ii) Group psychotherapy vs any comparator (including waitlist, individual psychotherapy, medication, no treatment)
 - iii) Antidepressant medication vs other medication or placebo.
- 2) To examine the effectiveness of treatments for each specific disorder
 - i) Individual psychotherapy vs. any comparator (including waitlist, no treatment, other psychological interventions, medication, group psychotherapy)
 - ii) Group psychotherapy vs any comparator (including waitlist, no treatment, other group psychological interventions, medication)
 - iii) Antidepressant medication vs other medication or placebo.

Types of outcome measures

Included studies must have reported a specific mental health assessment which related to the disorders being examined here (e.g. the Beck Depression Inventory for depression). Outcome measures of interest are described below. Both dichotomous and continuous measures will be used.

Primary outcomes: Mental health outcomes, to include:

(i) Improvements in symptoms (e.g. depression as measured by the Beck Depression Inventory).

(ii) No longer having a disorder including the use of:

- Standard diagnostic criteria (e.g.. DSM, ICD-10 for depression and anxiety)

- Scrutiny of medical records (e.g. for evidence of repeated self harm, and self report of suicidal thoughts and behaviours).

Secondary outcomes: Other important issues known to be associated with mental health problems in young offenders, including:

(i) General psychological functioning (such as problem solving skills, coping skills and hopelessness)

(ii) Quality of life (e.g. as measured by instruments like the Child Health and Illness Profile (CHIPCE))

(iii) School attendance (e.g. from official records and self report)

(iv) Recidivism (e.g. from official records and self report).

Search strategy for identification of studies

Electronic searches

The CCDAN registers will be searched as follows

CCDANCTR-Studies

Setting = detention* or Facility* or Prison* or Incarcerat* or Jail or Court* or Correctional or Borstal or Reformato* or "youth offending team"

and

Age-group = Child* or Adolescent

CCDANCTR-References

Free-text = Juv* or Youth* or Adoles* or "young people" or "young person*" or teen* or pediatri* or paediatr*

and

Free-text = (Offender* or Delinqu* or Crim* or Convic*) and (detention* or Facility* or Prison* or Incarcerat* or Court* or Correctional or Borstal or Reformato* or "youth offending team"

The following electronic databases will be searched from 1950-2007 using Ovid Online:

AMED (from

1985), CINAHL (from 1982), EMBASE (from 1980), Ovid Medline ® In- Process and other nonindexed citations (from 1950), Ovid Medline (from 1950), and PsycInfo (from 1967).

Summary of the search strategy

The search strategy is designed to encompass: (i) specific characteristics of young offenders using person and population-based terms like 'young offender' or population-based terms like 'prison', (ii) specific types of literature such as RCTs and (iii) specific mood and anxiety disorders (eg. depression), and self harm.

Complete search strategy

All keywords searched for: [mp=ti, hw, ab, it, sh, tn, ot, dm, mf, nm, tc, id]

i) Young offender

Person specification:

1. Child*
2. Juv*
3. Youth*
4. Adoles*
5. young people
6. young person*
7. teen*
8. #1 or #2 or #3 or #4 or #5 or #6 or #7

Population:

9. Offend*
10. Delinqu*
11. Crim*
12. Convic*
13. #9 or #10 or #11 or #12

Institution:

14. Detention*
15. Facility*
16. Prison*
17. Incarcerat*
18. Court*
19. Correctional
20. Borstal
21. Reformato*
22. 'youth offending team'
23. YOT*
24. Probation
25. CAMHS
26. #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25
27. #8 or #13 or #26
28. (remove duplicates if possible, depending on size of search so far)

ii) Literature Type

29. randomized control trial
30. randomised control trial
31. randomized-control trial*
32. randomised-control trial*
33. controlled clinical trial*
34. random allocation*
35. double blind method
36. single blind method
37. clinical trial*
38. ([#29 or #30 or #31 or #32 or #33] or #34 or #35 or #36 or #37)
39. #27 and #38
40. (remove duplicates if possible, depending on size of search so far)

iii) Specific disorders

- 1) Anxiety
41. Anxiety*

- 42. Anx* dis*
- 43. General* anx*
- 44. #41 or #42 or #43
- 45. #39 and #44
- 46. remove duplicates
- 2) Deliberate Self-Harm
- 41. deliberate self harm*
- 42. self harm*
- 43. self destructive behave*
- 44. self injur*
- 45. DSH
- 46. self-harm*
- 46. suicid*
- 47. parasuicid*
- 48. suicidal behav*
- 49. attempted suicid*
- 50. completed suicid*
- 51. #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50
- 52. #39 and #47
- 53. remove duplicates
- 3) Depression
- 41. depress*
- 42. unipolar depress*
- 43. bipolar disorder*
- 44. bipolar mood disorder*
- 45. manic depress*
- 46. major depress*
- 47. mania
- 48. #41 or #42 or #43 or #44 or #45 or #46 or #47
- 49. #39 and #48
- 50. remove duplicates
- 4) PTSD
- 41. post traumatic stress disorder*
- 42. 'post traumatic'
- 43. trauma*
- 44. 'post traumatic behav*
- 45. PTSD
- 46. #41 or #42 or #43 or #44 or #45
- 46. #39 and #45
- 47. remove duplicates

Other electronic sources

Cochrane Collaboration CENTRAL Database of Controlled Clinical Trials (from 1950).

The National Electronic Library for Health.

Bandolier

TRIP (Turning Research into Practice)

Other sources

Conference proceedings

A search strategy will be applied to the ISI Web of Science proceedings to access literature from conferences and meetings. Full details of the strategy are available on request.

Hand searches

We will undertake hand searches of key journals in the field for trials relevant to this review. These will be searched from the first available volume until 2007. Journals to be included are:

Journal of Forensic Psychiatry
 Criminal Behaviour and Mental health
 Journal of Mental Health Law
 Criminal Justice Studies
 International Journal of Forensic Mental Health
 International Journal of Forensic Psychology
 International Journal of Law and Psychiatry
 International Journal of Offender Therapy and Comparative Criminology
 Child and Adolescent Mental Health
 Journal of the American Academy of Child and Adolescent Psychiatry

Reference lists

The reference lists of previous reviews and systematic reviews of interventions for this group will be scanned to identify additional trials.

Efforts to identify unpublished studies

We will search the following resources and contact authors for further information where appropriate: National Research Register (includes details of ESRC and Forensic Mental Health programme grants), Youth Justice Board reports and Children's Fund grants. Experts in the field will be contacted with the list of RCTs identified by our search strategy to see if they know of any further studies.

Methods of the review**Selection of studies**

Two authors will independently screen potential studies for inclusion in the review. Disagreements will be resolved with via consultation with a third reviewer.

Data extraction and management

Data extraction will be completed separately by two authors (ET and DW) and the results compared.

Disagreements will be resolved with a third reviewer (SS or PV). Data extraction forms will be standardised and will include the following information:

Number of participants recruited
 Number of participants randomised
 Attrition rates
 Final participant numbers
 Age
 Interventions tested
 Screening tools used
 Validity of screening measure
 Baseline screening measures
 Mid treatment measures
 Post treatment measures
 Follow-up measures (where applicable)
 For continuous measures we will extract descriptive statistics (means, standard deviations, confidence intervals, significance levels)

For dichotomous measures we will extract the proportions of participants with symptoms (eg. depression or repeating self harm and the proportion of those without.

Other descriptive information about the trials will be gathered to provide a context to facilitate comprehensive interpretation of the results including:

Socioeconomic Status (SES)

Ethnicity

Criminal Justice setting (eg. incarcerated vs. community)

Types of offender and offences

Length of sentence

Who carried out assessments/diagnoses (eg. clinician, post-doc or research assistant)

Who delivered the interventions (eg. clinician, trainee etc?)

Assessment of methodological quality of included studies

This will be carried out independently by two reviewers using a standardised form. The form will be based on the criteria described in the Cochrane Collaboration Handbook ([Alderson 2004](#)) which focuses on the relationship between concealment of allocation to treatment and the strength and direction of the effect ([Schulz 1995](#)).

Measures of treatment effect

Overall effect sizes will be calculated. For dichotomous (yes/no) outcomes the overall odds ratios, with their 95% confidence intervals, will be calculated. Where the results are statistically significant we will calculate the numbers needed to treat. For continuous outcomes either standardised or weighted mean differences will be calculated.

Dealing with missing data

Missing data will be requested from authors wherever possible. Where we fail to obtain data for intention-to-treat analyses, the study will be excluded from the intention-to-treat meta-analysis. It may also be possible to derive means and standard deviations from test statistics where these are reported. This procedure has been carried out by the two of the reviewers in another systematic review ([Townsend 2001](#)).

Assessment of heterogeneity

Heterogeneity will be assessed visually by first examining forest plots and then performing a formal statistical test (chi-squared test) and describing the extent of heterogeneity (using I²) to determine whether it is appropriate to synthesise these data. As described below, heterogeneity will also be explored in relation to gender and ethnicity and according to the custodial setting of the intervention (where possible). Data synthesis will involve exploring differences between different diagnoses and specific interventions. Descriptive analyses (for example, whether rating scales used as outcome measures have been published, properly validated and are reliable) will also be provided.

Assessment of reporting biases

This will be assessed by examining funnel plots.

Data synthesis

Meta-analysis will be conducted in conjunction the statistician on the review team (JS).

Where possible both random effects and fixed models will be used. Statistical analyses will be carried out both on an intention-to-treat and per protocol basis. Studies will first be

grouped by the type of disorder they are investigating (e.g. depression, PTSD) and then by the type of intervention they are examining (e.g. CBT or family therapy). Each type of intervention (e.g. CBT, Group Therapy) will be examined in relation to each specific disorder (e.g. depression, PTSD) separately. We will also examine the effectiveness of certain specific interventions (e.g. group-based CBT) across disorders.

Subgroup analyses and investigation of heterogeneity

Wherever possible sub-group analyses will be carried out to account for difference in outcomes between:

Males and females

Young people from different ethnic backgrounds

Incarcerated vs community based young offenders

Sensitivity analysis

Sensitivity analyses will test the robustness of the overall findings to the decisions that were made in the conducting of the main meta-analysis, for example, by excluding poorer quality studies. Specifically, we will conduct sensitivity analyses to determine the effects of inadequately randomised studies.

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