

## Psychosocial treatments for depression in UK Criminal Justice A Review of the Evidence

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### ABSTRACT

**Objective:** To systematically review the clinical efficacy of psychosocial methods for managing depression in the prison population.

**Search Strategy:** Medline, Embase, CINAHL, Psych Info, Applied Social Sciences Index and Abstracts, Cochrane Library (CENTRAL) and Controlled Clinical Trials.com were searched. Government reports and tertiary sector advisory body publications on the prison service were hand-searched.

**Selection Criteria:** Randomized clinical trials (RCT) of non-drug interventions to treat unipolar depression in the prison population were included if available. In line with the expected low number of RCTs in this area, observational studies [cohort studies, case-control studies and case series] and epidemiological studies where the primary aim of the study was to assess the implementation of non-drug treatment were included.

**Data Collection and Analysis:** One independent reviewer assessed eligibility and trial quality and extracted published data.

**Results:** One study reviewed the current implementation of non-drug interventions in the prison population, concluding that current mental health provision was good. Seven studies reviewing a non-drug intervention for managing depression were included in this review. The form of psychosocial interventions evaluated included group and individual CBT (n=2), art therapy (n=2), group interpersonal therapy (n=1), Iyengar yoga (n=1) and Behavioral Activities Intervention (n=1). A total of 333 patients were included in these reviews in three countries (United States of America, United Kingdom and Iran). The quality of the studies was variable with several studies being pilot studies to investigate the feasibility of an intervention in the prison setting and thus did not have a control arm.

**Conclusions:** The prison population has by definition; a differing set of care and support needs for their depressive disorders. This review has highlighted that there is limited specific evidence for non-drug interventions for depression in the prison population, with only individual and group CBT having an adequate evidence base. However, the lack of evidence should not be assumed to equate with a lack of clinical efficacy. The author advocates further research and financial investment into this area of forensic psychiatry. Such investment will enable primary care physician and psychiatrists working with patients serving custodial sentences to make evidence based medical decisions tailored to their patients needs.

**Key Words:** forensic psychiatry; depression; systematic review

## Introduction

Offenders have very high rates of mental ill health with recent estimates suggesting that up to 90% of individuals serving custodial sentences have some form of diagnosable mental health condition.<sup>1-2</sup> Furthermore, a Department of Health (DoH) review noted that up to 70% of the current custodial population may have two or more mental health diagnoses.<sup>3</sup> Mental health pathology of all forms is more prevalent in the criminal justice system but the manner in which these different conditions are managed vary significantly.<sup>2-3</sup> Patients with schizophrenia or bipolar disorder are commonly treated promptly as a result of the symptoms displayed<sup>3</sup> and patients with support needs around substance abuse are managed in many regions by a specialist team of health professionals.<sup>3-4</sup> Current health policy is that prisoners should have access to the same quality and range of healthcare services as the general public receives from the National Health Service.<sup>5</sup>

However, there have been concerns voiced about the way unipolar depression, an equally common mental health condition in prisons, is managed in the criminal justice service.<sup>4,6-7</sup> A Department of Justice funded American study of 5,305 Texan prisoners with a diagnosed depressive disorder noted considerable variation in prescribing patterns and use of psychosocial interventions between prison institutions.<sup>7</sup> The study showed that just over a fifth of patients with depression remained untreated despite a confirmed diagnosis.<sup>7</sup> Similar concerns have been voiced in the UK by John Podmore, the former Head of Community Prisons and Transitional Facilities, noting that, 'Even the best prisons with the best regimes and most committed staff will struggle to create an environment where anxiety and depression do not flourish.'<sup>4</sup>

Unipolar depression is a disabling mental health condition that adversely affects a patient's life in multiple domains (family, work and/or school life). Depression increases patient morbidity and mortality, as a direct result of the depressive disorder but also due to the development or worsening of other physical co-morbidities such as cardiovascular disease.<sup>6,8-9</sup> Furthermore, depression in some cases can drive people out of work, onto incapacity benefit and lead to social exclusion.<sup>4,6</sup> People who have served a custodial sentence who remain untreated for their psychiatric condition are more likely to re-offend and be disadvantaged in numerous social domains.<sup>3</sup> Furthermore, an Australian study noted that in prisoners admitted to hospital within 12 months of being released, a depressive episode was the primary cause of admission for 15.4% of women and 7.8% of men.<sup>10</sup> Recent reviews on mental health service provision in the prison system have concluded levels of mental health prisoner support requires a level of service provision that is quite beyond the capacity of current forensic psychiatry services<sup>11</sup> and that current service provision must be improved<sup>12-13</sup>.

Relating these findings to depression, the National Institute for Clinical Excellence (NICE) clinical guidelines<sup>14-15</sup>, DoH publications (e.g. -'*Improving health and supporting justice*'<sup>16</sup>) and the '*Managing Major Depressive Disorder Guideline*' by the Federal Bureau of Prisons in America<sup>17</sup> all recommend that non-drug or psychosocial interventions be trialed as first line for patients with mild and moderate depression if at all possible. However, there are clearly significant logistical challenges between providing non-drug approaches for patients in the community and those in custody.<sup>3,6,12</sup> This area is currently under studied, with no systematic review assessing the effectiveness of psychosocial interventions in the prison system and whether such approaches are feasible and/or clinically efficacious. This review will outline the currently advocated guidance for psychosocial therapies for the general population and subsequently review the evidence for such interventions in a prison population.

## Methods

A study protocol was developed at the start of the study according to QUORUM guidelines.

### Intervention

We sought to evaluate the current provision of singular or combined non-drug interventions to manage unipolar depression in the prison population.

### Selection Criteria

Randomized clinical trials (RCT) of non-drug interventions to treat unipolar depression in the prison population were included if available. In line with the expected low number of RCTs in this area, observational studies [cohort studies, case-control studies and case series] and epidemiological studies where the primary aim of the study was to assess the implementation of non-drug treatment were included. Government reports and tertiary sector advisory body publications on the prison service were included if they explicitly discussed depression for incarcerated patients.

### Types of participants

Studies were included if the participants were included if they were aged >16 years old (men & women) with a confirmed diagnosis of depression whilst in a prison environment. Prisoners in all categories (categories A to D) in both closed and open prisons were included. Patients were excluded if they had a co-morbid psychiatric diagnosis of delirium, acute drug withdrawal or were hospital in-patients (psychiatric or general) at any point during the reviewed study.

### Outcomes

The primary outcome measure was a return to euthymia or baseline function. This primary clinical outcome was measured by a *validated depression score* or if appropriate *other recorded measures* noted by the study (including appetite, social engagement etc). Secondary outcome measures included death (inclusive of suicide), patients being placed on suicide watch or equivalent, all forms of physical and mental health morbidity and hospitalizations.

### Search Strategy

In March 2012 the following databases were searched: Medline (from 1966), Embase (from 1980), CINAHL (from 1982), Psych Info (from 1920), Applied Social Sciences Index and Abstracts (from 1987), Cochrane Library (CENTRAL) and Controlled Clinical Trials.com for research papers. Government reports and tertiary sector advisory body publications on the prison service from 1987 were hand-searched. One independent reviewer screened titles and abstracts of papers identified by the literature searches for their potential relevance and/or assessed the full text for inclusion in the review. One reviewer abstracted the data independently using a standard proforma.

Information from the full text articles was recorded on study characteristics, the study population, environment/nature of the custodial center the study took place, the nature of the intervention(s), outcome measure(s) used and length of follow-up. Classification of the interventions was the form of non-pharmacological intervention utilized. All reported statistical analyses were recorded including sensitivity (95% CI), specificity (95% CI), Odds Ratios (95% CI) and any reported p-values.

## Study Validity and Presence of Bias

Study validity and the presence of bias was assessed using the Cochrane criteria handbook<sup>14</sup> and this process has been outlined in detail in a previous systematic review in the Scottish Universities Medical Journal.<sup>15</sup> Only studies assessed by the author as being of sufficient validity and not open to excessive bias were included for analysis.

## Data Analysis

All information gathered from included trials was broken into two sections and reviewed separately. The sections were as follows:

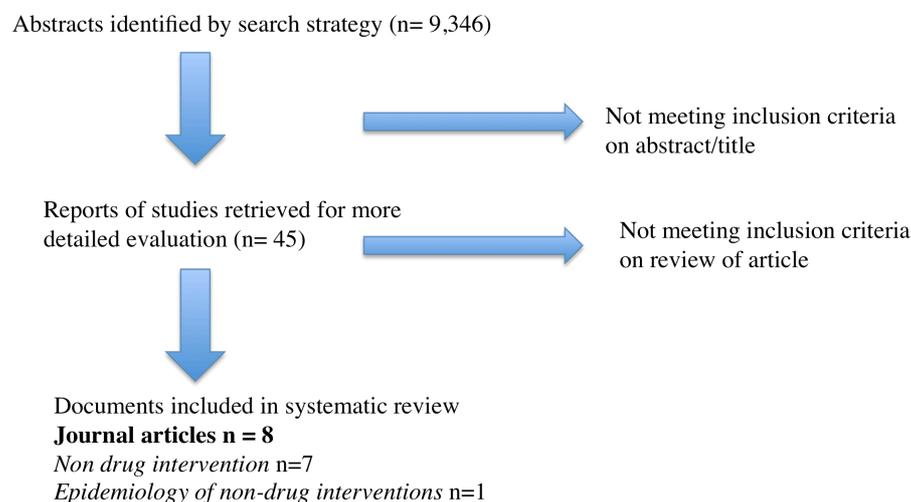
- \* Epidemiology of Non-Drug Interventions in the Prison Population
- \* Evidence for Non-Drug/Psychosocial Treatments for Depression in Prison

All descriptive data is presented in tabulated form, including study characteristics and background, the nature of non-drug intervention being assessed, and comparison to other control/treatment groups. The trials are subsequently discussed in detail after assessing the trial quality. Statistical analysis was not performed because of the significant heterogeneity of the reviewed studies and insufficient papers of a similar intervention(s) to combine.

## Results

Abstracts (9,346) were found by initial search strategy. Examination of the abstracts identified 45 articles/government publications for detailed examination. 37 did not meet inclusion criteria and hence were excluded leaving a total of 8 articles to be reviewed (Fig 1). Reasons for exclusion included studies excluding patients with depressive symptoms, studies focusing upon juveniles and hospital based interventions. Details of the selection process are noted in figure 1.

**Fig 1: Trial selection flow diagram**



## Epidemiology of Non-Drug Interventions in the Prison Population

The current implementation of non-drug therapeutic interventions for depression in the prison population has received little assessment. Only one study was isolated after review, by Kjelsberg et al.<sup>16</sup> This paper outlined the current utilization of psychosocial interventions in a Norwegian prison environment in 2005. One third of the Norwegian prison population was sampled (n=928), and the authors reviewed the use of all non-pharmacological psychiatric interventions (excluding pure correctional programs) delivered in various prison environments.<sup>16</sup> The study noted that as many as a quarter of the prisoners (230/928)

received non-pharmacological interventions, with 95% of this group receiving individual therapy. The most commonly used interventions were supportive psychotherapy (62%) and behavioral-cognitive interventions (26%). Psychologists, mental health nurses and psychiatrists delivered between 14 and 25 interventional sessions per 100 prisoners, which could have been planned or delivered ad-hoc depending upon prisoner need and prisoner category.<sup>16</sup> The study noted that out of the 230 prisoners receiving non-drug interventions, 52% were receiving concurrent pharmacological treatment for their mental health disorder.<sup>16</sup> This level of drug prescribing is in line with the current literature.<sup>17-18</sup> The study noted that 5 out of 6 psychiatric health services estimated inmates' psychiatric needs met, although this was the specialists own estimates only.<sup>16</sup> Kjelsberg et al note that current mental health provision in Norway appears to be good and suggests that the country may have more resources than European and worldwide counterparts for such non-drug interventions. Importantly, the authors do note that there was no objective measure of assessing the effectiveness of the non-drug interventions and advocate future research into this area.

This study provides a useful baseline of the current implementation of non-drug interventions in the prison system in Norway. However, there is currently no such available information in the UK and it is unlikely that the UK is meeting such levels of mental health provision.<sup>19</sup> A similar study focused in the UK would be desirable in line with current concerns with short-comings of mental health provision in England & Wales<sup>20</sup> and the 114.5% growth in the US prison population between 1988 and 2000<sup>18</sup>.

### **Non-Drug/Psychosocial Treatments for Depression in Prison**

Eight studies reviewing a non-drug intervention for managing depression were included in this review.<sup>21-27</sup> Study characteristics for included research papers are summarized in Table 1. The form of psychosocial interventions evaluated included group and individual CBT (n=2), art therapy (n=2), group interpersonal therapy (n=1), Iyengar yoga (n=1), and Behavioral Activities Intervention (n=1). A total of 333 patients were included in these studies in three countries (United States of America, United Kingdom and Iran). The form of studies included pilot/feasibility studies (i.e.- no control) (n=4), pre-test post-test experimental design with control (n=2), comparative evaluation of interventions (i.e.- no control) (n=1) and case series (n=1).

### **Quality of Studies**

The quality of the studies included in this review was variable. Only 2 of the studies included a control group, with half of the studies being pilot interventions. Follow-up of the assessed interventions for each of the studies was variable [1 month to 1 year] making interpretation of the longevity of any improvements challenging. Furthermore, the studies had considerable heterogeneity with fourteen different outcomes measures being used and four different interventions being evaluated. Therefore, an inter-research comparison was challenging.

Table 1: Summary of Non-Drug/Psychosocial Studies (n=7) <sup>21-27</sup>

| Author (year; country)                             | Study Type                                 | Patient No. | Study Population (all in prison)                                   | Outcomes  | Control                           | Intervention(s)                   | Follow-Up Period |
|--|--|-------------|--|---|-----------------------------------|-----------------------------------|------------------|
| Johnston JE et al. (2008) <sup>21</sup><br>USA     | Pilot Study                                | n= 26       | ♀; major depressive disorder & substance misuse                    | HRSD, BDI & MSPSS   | Uncontrolled                      | Group Interpersonal psychotherapy | 2 months         |
| Harner H et al. (2010) <sup>22</sup><br>USA        | Pilot Study                                | n= 21       | ♀ English speaking; ≥35 yrs  | BDI; BAI & PSS  | Uncontrolled                      | Iyengar Yoga                      | 3 months         |
| Khodayarifard M et al (2010) <sup>23</sup><br>Iran | Pretest Posttest design with control group | n= 180      | ♂ Random sample  | GHQ; Checklist 90 and diagnostic interviews* <sup>1</sup> | Mental Health Treatment as normal | Individual CBT and Group CBT      | 1 year           |
| Wilson GL (1990) <sup>24</sup><br>USA              | Comparative Evaluation of Interventions    | n=10        | ♂, referred by counseling staff                                    | BDI, MAACL, Hopelessness Scale & MMPI D scale             | Uncontrolled                      | Individual CBT and Group CBT      | 9 months         |
| Meeks S et al (2008) <sup>25</sup><br>USA          | Case Series                                | n=4         | ♂; diagnosis of major depression                                   | GDS, SCID   | Uncontrolled                      | BE-ACTIV                          | 10 weeks         |
| Gussak D (2004) <sup>26</sup><br>USA               | Pilot Study                                | n= 48       | ♂; mental health diagnosis ;chosen by mental health co-coordinator | Art therapy based assessment; FEATS & pilot survey        | Uncontrolled                      | Art Therapy                       | 1 month          |
| Gussak D (2006) <sup>27</sup><br>USA               | Pretest Posttest design with control group | n=44        | ♂; mental health diagnosis & volunteered                           | FEATS; BDI & BDI-II                                       | Mental Health Treatment as normal | Art Therapy                       | 2 months         |

### Key for Abbreviations

**BAI:** Beck Anxiety Inventory; **BDI:** Beck Depression Inventory; **BDI-II:** Beck Depression Inventory – Short Form (psychological assessment); **BE-ACTIV:** Behavioral Activities Intervention; **CBT:** Cognitive Behavioral Therapy; **FEATS:** Formal Elements Art Therapy Scale; **GDS:** Geriatric Depression Score; **GHQ:** General Health Questionnaire; **HRSD:** Modified Hamilton Rating Scale for Depression; **PSS:** Perceived Stress Scale; **MAACL:** Multiple Affect Adjective Check List; **MMPI:** Minnesota Multiphasic Personality Inventory; **MSPSS:** Multi-dimensional Scale of Perceived Social Support; **SCID:** Structured Clinical Interview for DSM IV

\*<sup>1</sup> Diagnostic interviews based on the Diagnostic and Statistical Manual of Mental Disorders

### Analysis of Studies

#### Group IPT <sup>21</sup>

Johnson et al<sup>21</sup> completed a small pilot study examining the feasibility of introducing group IPT into treat depressive disorders in females in prison with substance misuse in the Adult Correctional Institute in Rhode Island. Women with a depressive disorder (including an episode before incarceration) and history of substance misuse (not acute phase) were included in the study with patients with manic depression or schizophrenia being excluded. The authors delivered a 1-hour pre-group individual session followed by 24-hour long group sessions over 8 weeks designed in accordance with an IPT manual.<sup>21</sup> Out of the 26 women that originally commenced therapy, 22 (84.6%) completed the full group IPT program. Completer analysis noted that 16/22 (73%) of patients did not have diagnosable depression at the end of the IPT intervention [Modified Hamilton Rating Scale for Depression (HRSD)  $t(21) = -5.9, p < .001$ ; Beck Depression Inventory (BDI)  $t(21) = -4.9, p < .001$ ], with intent to treat analysis noting 18/25 (72%) of patients were no longer depressed [HRSD  $t(24) = -6.7, p < .001$ ; BDI  $t(24) = -5.5, p < .001$ ]. In addition, intent to treat analysis also showed increases

in perceived social support [Multi-dimensional Scale of Perceived Social Support  $t(24) = 2.9$ ,  $p < .01$ ]. Separate regression analysis showed no relationship between adding and/or increasing antidepressant medications on HRSD or BDI scores, although this was a low powered study.

#### *Iyengar Yoga*<sup>22</sup>

A US study by Harner et al<sup>22</sup> assessed the feasibility of providing Iyengar yoga to incarcerated women as a structured exercise regime, aiming to increase psychological well being. 24 yoga sessions were conducted over a 3-month period, with three self-administered questionnaires [BDI, Beck Anxiety Inventory and Perceived Stress Scale] completed at baseline and subsequently at four weekly intervals to assess patients' depression, anxiety and stress levels. This study had a low completion rate with only 6/21 (29%), meaning that statistical analysis was limited to linear trend analysis and least square mean values. The authors found that prisoners in principle are happy to engage in health exercise related interventions, and that the use of Iyengar yoga was associated with significant reductions in linear levels of depression [BDI  $p < .001$ ]. Stress and anxiety showed linear changes without significance, with stress levels returning to baseline levels by week 12 of the intervention.

#### *Individual and Group CBT*<sup>23-24</sup>

Two studies assessing psychotherapy, by Khodayarifard et al and Wilson, concluded that there is evidence to suggest that psychotherapeutic approaches to managing depressive symptomatology is effective and could be used in a prison facility.<sup>23-24</sup>

Khodayarifard et al<sup>23</sup> carried out a pre-test post-test research program comparing individual CBT, combined individual and group CBT and care as normal. The study aimed to assess the impact of these psychotherapy interventions on psychological symptoms and psychological status of Iranian prisoners from the Rajaei Shahr Prison in Tehran. The study included 180 participants (each trial arm  $n=60$ ) through random sampling. The individual CBT group engaged in 8 1-hr weekly individual psychotherapy sessions using CBT techniques. The combined group took part in 16 2-hr weekly group sessions in addition to the individual therapy. The control group received normal care for the institution. Over the period of the study the participant numbers declined from 60 to 48 in the individual CBT group, 46 in the combined CBT group and 40 in the control group.

Patient's general health and psychiatric symptoms were assessed using the General Health Questionnaire (GHQ-28) and structured clinical interview for DSM IV (SCID-90) assessments before and after the interventions. Khodayarifard et al concluded that both individual and combined interventions reduced the symptoms of offenders as measured by GHQ-28 subscales and general index scores compared to the control. The authors stress that the combined intervention demonstrated a greater degree of clinical efficiency than individual interventions, compared to the control. In addition, none of the prisoners who received either individual or combined CBT interventions had re-offended almost after 12 months after release compared to a normal re-offender rate of 15%.

In 1990 Wilson compared the clinical efficacy of two forms of psychotherapy in a large maximum-security prison, group cognitive therapy and individual cognitive therapy.<sup>24</sup> A total of 10 subjects were recruited [5 placed into each trial arm] with patients on psychoactive medications for mental health disorders excluded. Participants completed the BDI, Multiple Affect Adjective Check List and Hopelessness scale at the pre-treatment stage, mid-treatment (6-weeks after treatment began) and at the post-treatment stage. Participants were followed up nine months after the cessation of the study with a Minnesota Multiphasic

Personality Inventory (MMPI) scale to assess the longevity of any improvements. Group cognitive treatment included four 30-min sessions with individual cognitive treatment comprising of four 30-min sessions and weekly check-in visits with all sessions run by a trained counselor or therapist.

All 10 participants completed the study, and statistical analysis of variance across all dependent measures noted statistical significance across all repeated assessments on BDI scores ( $p < .001$ ), on MMPI scale ( $p < .02$ ) and a trend towards reduction in the Hopelessness scale ( $p = .09$ ). In line with the limited numbers of participants, Wilson assessed the clinical significance using reliable change indices noting a pattern of greater improvement among patients receiving group cognitive therapy.<sup>24</sup>

#### *Behavioral Activities Intervention [BE-ACTIV]*<sup>25</sup>

A four patient US case series by Meeks et al described the use of the BE-ACTIV in the setting of the state reformatory nursing home.<sup>25</sup> This clinical case series aimed explore the use of the BE-ACTIV program in the prison setting and the potential for improving patient psychological well-being.

The study discussed the use of this program for four residents over a 10-week period. The patients were all cognitively intact and had confirmed diagnosis of depression (from case notes and SCID-90 interview). At the start and the end of the study a full assessment of the patients was made including SCID-90 interview, Geriatric Depression Score, and a global assessment of functioning. Self-reported mood levels, pleasant activities completed and time spent with therapist was recorded at weekly time points. The study concluded that the BE-ACTIV program could be delivered in the prison nursing home if suitable resources are made available by prison agencies and that the BE-ACTIV program has the ability to reduce symptoms of depression and increase levels of global functioning. However, no statistical analysis was conducted due to the small sample size.

#### *Art-Therapy*<sup>26-27</sup>

Gussak carried out a pilot<sup>26</sup> and follow-up<sup>27</sup> study in North Florida looking at the efficacy of art therapy in reducing depression in the prison population.

The pilot study<sup>26</sup> included 48 inmates chosen by facility's mental health counselor received two group sessions of art therapy per week. Art therapy sessions were structured by a group art therapist and consisted of varied artistic tasks of varying difficulty. All participants had an Axis I diagnosis and 51% received concurrent psychoactive treatment. The two outcome measures were taken at the pretest and posttest time points. These were a survey designed by Gussak and the mental health counselor focusing upon inmates' interactions with staff and other prisoners' and the Formal Elements in Arts Scale (FEATS).

A total of 83% of total participants (39/47) completed the pre and post-test assessments. The survey results demonstrated, significant improvements in attitudes to towards correctional staff and other prisoners as well as improved compliance with rules, medication and diet ( $p \geq .001$ ). The FEATS assessment noted significant improvement in 50% of the assessed scales and was associated with reduced expression of depressive symptoms.

The follow-up study<sup>27</sup> was carried out at the same institution and comprised of an experimental group (art therapy sessions carried out once a week for 8 weeks) and a control group (no art therapy, care as normal). The outcome measures were the FEATS and the BDI to measure any change in patient mood. Completion of pre and post-test BDI and FEATS

assessment was achieved in 16/27 (59%) in the experimental group and 13/17 (76%) in the control. The groups had comparable age ranges but drug prescribing varied significantly, with 95% of patients on medications in the experimental group and 27% in the control group. The study noted a significant decrease in BDI scores in the experimental group compared to controls but no difference in FEATS score. However, this lack of significance was explained by the fact that some prisoners had already completed the FEATS assessment in the pilot study and were familiar with the drawing procedure.

## Discussion

There is considerable evidence that non-drug approaches to managing depression are both efficacious and cost-effective.<sup>28-29</sup> However, there is currently no comprehensive literature review on providing psychosocial interventions for the prison population. This select population has considerable differences in both mental health need and the ways that services can be provided to patients. A systematic review of the literature has isolated 8 research papers in this area, one focusing upon the current implementation of psychosocial interventions in Norway and the other seven focusing upon the feasibility or clinical efficacy of specific interventions.

### Current Implementation of Non-Drug Approaches

A Norwegian research group noted a quarter of the prisoners received non-pharmacological interventions for mental health disorders, with 83% of psychiatric health service boards estimating inmates' psychiatric needs met.<sup>16</sup> However, it is unlikely that this reflects the current provision of psychosocial interventions in the UK. Therefore, it would be prudent to assess using similar methods at Kjelsberg et al<sup>16</sup>. This would help form a base line of how effectively the mental health services in the UK are providing non-drug interventions in prisons.

### Treatment Interventions - Discussion of Literature

#### *Group IPT*<sup>21</sup>

A pilot research project by Johnson et al<sup>21</sup> concluded that group IPT appears a feasible treatment program in substance misuse centers and can improve symptoms of depression. Importantly, the authors note that as this prison is typical of many US substance abuse centers and subsequently the results could be generalized to other US treatment centers. In addition, to quantifiable outcomes the authors noted numerous subjective positive features associated more generally with the group IPT. Participants appeared motivated by the relatively individualized attention of the sessions and appreciated the empathy and positive regard shown to them by the counseling team. Furthermore, this program stimulated some participants to actively seek out antidepressant treatment from their medical care provider. However, the study is inherently limited by the lack of a control arm and indeed cannot make a confirm conclusion that the group IPT was the over-riding factor in the patients improved health as a direct result of concurrent pharmacological prescribing. In addition, the study did not include a formal assessment of treatment adherence and only assessed patients shortly after the intervention.

#### *Iyengar Yoga*<sup>22</sup>

Yoga incorporates poses, breathing techniques and meditation and has been shown to be a safe form of exercise for people of all ages.<sup>22</sup> Harner et al attempted to assess feasibility of using yoga in a females prison to improve psychological well-being including improving symptoms of depression, anxiety and stress. Indeed, the research team did note that yoga in principle was feasible in a prison environment and could improve symptoms of depression. There was no evidence that symptoms of stress and anxiety were significantly improved.

The small numbers of the study (n=21) coupled with a low completion rate (29%) makes advocating investment in this approach difficult. Although the conclusions cannot be extrapolated onto a wider basis in terms of using Iyengar yoga to help treat depression, exercise regimes may well be beneficial for general psychological well-being in terms of providing activities and a sense of purpose in a prison environment.<sup>22</sup>

#### *Individual and Group CBT*

The strongest evidence for a specific intervention in a prison environment is for individual and group CBT. The two trials isolated were a randomized three-pronged study [including a control group] with a 1-year follow-up<sup>23</sup> and a small single centre comparative evaluation of interventions study with 9 months follow-up<sup>24</sup>.

CBT aids patients make sense of overwhelming problems and dysfunctional behaviors by developing learned ways of controlling and managing emotions and thinking. Both studies noted that individual and group CBT was associated with improved depression related outcomes [BDI, Hopelessness Scale, GHQ-90 and diagnostic interviews]. Furthermore, Khodayarifard et al<sup>23</sup> suggest that CBT helps to replace un-favorable decision-making and cognitive skills with more appropriate and socially appropriate ones, vitally important in the prisoner population to avoid criminal recidivism. Both studies felt that combined CBT was particularly effective. Wilson<sup>24</sup> compared individual CBT with group CBT and noted an improved depression response [BDI and Hopelessness scale] and increased levels of client satisfaction in the group CBT arm, in contrast to general population studies<sup>30</sup>. Khodayarifard et al<sup>23</sup> found that combined CBT interventions worked more effectively than the control or individual CBT only. It is postulated this may be because individuals learn from other people experiences and problems in the group setting both are then able to explore more personal issues on a one to one basis. However, it would have been useful for the trial to have included a group which received group CBT on its own to enable further direct comparisons to be made. Finally, Wilson postulates that this treatment program was cost-efficient, manageable for staff at the prison and well received by inmates.

#### *BE-ACTIV*

The BE-ACTIV program is a behavioral treatment that attempts to overcome depression by promoting participation in activities perceived by the participant as purposeful, enjoyable and positive.<sup>25</sup> The program combines one to one sessions with a therapist to encourage engagement in activities and meaningful engagement with the care/prison staff to break down perceived challenges preventing the person engaging with activities.<sup>25</sup> This small case series is currently the only study looking at non-drug interventions depression in the prison nursing home setting and provides some useful information about a nursing home specific intervention. Clearly, as a case series the extent of the conclusions are limited and cannot automatically be extrapolated to the general prison environment. A follow-up study is indicated in order to clarify how clinically useful this intervention may be on a larger scale in terms of clinical efficacy, cost-effectiveness and potential longevity of improvements.

#### *Art Therapy*

Art therapy in prison has been suggested to be beneficial, with Gussak & Virshup in early work proposing eight domains of benefit from some small single centre studies.<sup>26</sup> The FEATS was designed to assess the presence of four major diagnoses (major depression; bipolar disorder, schizophrenia and delirium/dementia), but it can also be used to assess a client over a period of time.<sup>27</sup> Patients are asked to draw a picture of a person picking apples from a tree and the image obtained is assessed in multiple artistic domains (color, implied space, details of objects etc) to help assess patient engagement.<sup>27</sup> Although the FEATS has been

validated in a number of mental health settings, this was the first occasion that the tool had been used in the prison population.

Gussak carried out two studies that suggested that the intervention was associated with some improvements in the prisoners' well being. The pilot study noted that art therapy could be delivered to incarcerated patients and was associated with some improvements in behavior (using an un-validated questionnaire) and the FEATS (un-validated for this population). The extent and the methods by which patient mental health was improved are unclear. For example, was it specifically the art intervention that improved patient symptoms or increased social contact with professionals and friends? Furthermore, a limitation of the FEATS is that patient scores dramatically improve after an initial attempt demonstrating a learned interventional response. The studies provide some interesting information regarding therapeutic art based interventions but provide little solid evidence for their inclusion in regular prison practice. However, good prisons should provide inmates with activities and exercise as a matter of best practice rather than best evidence.

### **Limitations**

The results of this systematic literature review should be interpreted cautiously for a variety of reasons. Firstly, this review is based on a small number of studies as many others were filtered out during the study selection phase. Another literature study could include less stringent exclusion criteria for patients and include analysis with juvenile patients and/or secure hospital in-patients in order to increase the number of patients. Secondly, the review was not focusing upon one specific intervention, which made inter-study comparison challenging. Thirdly, these 8 studies were very heterogeneous with significant differences in the study population, number of researchers and country where the study was carried out. Such differences may certainly have impacted the study outcomes. Finally, the review of the literature was conducted by one author (LDH). The potential problems of using one reviewer were minimized as the author explicitly followed the QUORUM guidelines.

### **Recommendations for Clinical Practice**

Providing high quality psychosocial interventions for the prison population can be achieved in a European criminal justice system.<sup>16</sup> To attempt to guide the British prison system in this direction we propose research into two important areas. Firstly, it is important to establish a baseline level of current psychosocial interventions for depression in UK prisons. Secondly, it is pivotal to review how investment in Norway has been managed to provide an efficient service and how the structure of their prison system may contribute to providing good non-drug mental health services.

After reviewing the evidence the author notes a lack of clear evidence for the majority of psychosocial interventions in a custodial setting, mainly as a direct result of methodological weaknesses in the studies and the use of multiple and varying outcome measures.<sup>21-27</sup> However, current research into individual and group CBT does suggest that these approaches are clinically efficacious in managing depressive symptoms and also at reducing re-offending.<sup>23-24</sup> Crucially, a lack of comprehensive evidence in this area does not equate with a lack of efficacy. Indeed, none of the studies noted any adverse effects of psychosocial interventions<sup>21-27</sup>, were associated with numerous subjective improvements that are difficult to quantify (increased motivation<sup>21</sup>, engaged by process<sup>21</sup>, feeling of rejuvenation<sup>22</sup>) and can be cost-effective compared to treating as normal<sup>24</sup>. The author advocates further research with control groups on the interventions outlined in current research. In addition, attempts should be made to try and standardize rating scales for this purpose to aid inter-study comparisons. Developing the evidence base for non-drug interventions in terms of managing

mental health challenges and reducing re-offending should be key component of any future investment for mental health service in the prison care system.

## Conclusion

There is a considerable evidence base for the general population about which medications and psychosocial interventions are clinically efficacious. However, the prison population has by definition; a differing set of care and support needs for their depressive disorders. This review has highlighted that there is limited specific evidence for non-drug interventions for depression in the prison population, with only individual and group CBT having an adequate evidence base. However, the lack of evidence should not be assumed to equate with a lack of clinical efficacy. The author advocates further research into this area of forensic psychiatry to develop the evidence base for these interventions.

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