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Attention-deficit/hyperactivity disorder in persistent criminal offenders: the need for specialist treatment programs

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"The high rates of ADHD among this group, the consumption and costs of the resources they incur, mean that it is not a condition we can afford to ignore."

Attention-deficit/hyperactivity disorder (ADHD) is a clinical syndrome with onset in early childhood. In adulthood, the disorder is defined by hyperactive, impulsive and inattentive behaviors, a difficulty with self-regulation, mood instability, disorganization and poor behavioral controls. It affects approximately 3–4% of UK children [1], and a meta-analysis of follow-up studies has demonstrated that approximately 15% of cases continue to meet the diagnosis at 25 years of age, with a further 50% of individuals suffering impairment from residual symptoms [2]. Simon *et al.* recently estimated the world prevalence of ADHD in adults to average 2.5% or higher, with approximately 1% expected to fall in the most severe group requiring immediate treatment [3].

Attention-deficit/hyperactivity disorder has a wide-ranging and detrimental impact on the wellbeing of individuals who usually suffer clinical, neuropsychological and psychosocial problems [4]. It is associated with educational and occupational difficulties, low self-esteem, comorbid psychiatric problems, substance misuse, interpersonal relationship problems, delinquency and offending [5].

The size of the problem

The prevalence of ADHD in prisons has been reported internationally and varies greatly depending on the methodology used and the age of the sample. Nevertheless it is clear that, compared with population rates, a disproportionately high number of offenders with ADHD are being dealt with by the UK Criminal Justice System; for example, 45% of youth offenders [6,7] and up to 30% of adult offenders (for a review see [5]). Most studies have been conducted on male offenders, however, the British Cohort Study provided 30-year follow-up data for 10-year-old ADHD children, and found that both males and females with ADHD were at risk for police contact, but in males this was more likely to be associated with persistent offending [8]. A study of female offenders (mean age 34 years) reported an ADHD rate of 10% [9]. Many of these individuals have not had their ADHD symptoms diagnosed and/or appropriately treated.

The UK Ministry of Justice sentencing data for indictable offences indicates that, for every young offender (aged 10–20 years) that is handed an immediate custodial sentence, approximately six are managed in the community [101]. In April 2010, 11,149 male and 486 female young offenders were either sentenced or on remand in prison in England and Wales [102] and, when applying this 1:6 ratio, this estimates that there are around 70,000 young offenders in the community. If one applies a 45% rate of ADHD for male youth offenders and 10% for females (the latter estimated from female adult data), this suggests that there are approximately

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35,500 ADHD young offenders in the UK (approximately 5000 in prison and 30,500 in the community). The estimate is limited to sentencing data for indictable offences in youths; the inclusion of nonindictable offences and adults would swell the statistics many fold.

Youth offenders are costly to manage. In the UK, 10 years ago, the broad cost of care per annum for the 'average' youth offender in the community was estimated to be GB£22,356, rising to GB£55,640 for an offender in prison [10,11]. Those with ADHD are likely to cost disproportionately more than their peers due to increased service consumption in terms of earlier and repeated contact with the Criminal Justice System and greater frequency and severity of institutional aggression. Given that ADHD is a treatable condition with interventions available that are used to effectively treat ADHD symptoms and related behavioral problems in the general population, the enormity of this problem and its associated costs are too great to bear.

> "One study found that ADHD offenders accounted for eight-times more aggressive incidents than other prisoners."

Characteristics of ADHD offenders

Young, Gudjonsson and colleagues have conducted a series of studies investigating characteristics of male ADHD offenders at a Scottish prison [12–15]. Self-report questionnaires were given to 198 male prisoners (mean age of 30 years) and objective data were obtained from prison records. Staff additionally completed informant-rated questionnaires about inmates' behavior. Approximately a quarter of the men reported ADHD symptoms in childhood, and 14% reported persistent symptoms. Key differences were reported between ADHD and non-ADHD offenders. Official records showed that ADHD offenders were 2.5 years younger when they received their first conviction and they had higher rates of re-offending. They had greater comorbidity with antisocial personality disorder (63 vs 40%), but the key predictor of ADHD was a disorganized personality style rather than a personality disorder. Drug and alcohol misuse featured strongly in the ADHD group who had greater heroin use prior to incarceration. Drug dependence and ADHD symptoms were the most powerful predictors of financially motivated offending. Importantly, ADHD was a greater predictor than substance use of violent offending.

Behavioral disturbance within prisons, especially those resulting in staff assaults and prisoner-on-prisoner assaults, are a major source of concern. One study found that ADHD offenders accounted for eight-times more aggressive incidents than other prisoners, and six-times more incidents when controlling for antisocial personality disorder, suggesting that ADHD contributes to disruptive behavior above and beyond antisocial personality disorder [12]. Similar findings of institutional aggression have been reported among personality disordered patients detained under the Mental Health Act [16] and in youth offending facilities [17]. The phenomenon may be explained by several contributing factors associated with ADHD including impulsive responding, mood instability and low frustration tolerance [18] and a chaotic/disorganized personality style [15].

Treatment for ADHD offenders

Attention-deficit/hyperactivity disorder is a treatable disorder and intervention can be introduced at any age [19]. Importantly there is the potential to prevent adverse social outcomes if younger age groups are targeted. Strikingly, our own studies in offender facilities found that there is no routine screening for ADHD and very few offenders had been diagnosed. If ADHD is left untreated there is a serious risk that long-term problems will maintain substance use, consolidate antisocial attitudes and lifestyles and reduce the potential for rehabilitation.

The NICE guidelines recommended treatment with medication as the first-line treatment for adults with ADHD [20], and drug treatment has been shown to be effective in reducing ADHD symptoms in adulthood [21]. Treatment of ADHD may lead to improvements in comorbid disorders, such as antisocial and borderline personality disorders, substance abuse disorders, anxiety and depression. Two concerns seem to arise regarding treatment with medication in prison settings. One relates to the use of controlled drugs in this setting, and the second to the potential for diversion. However, protocols for the use of controlled drugs have been successfully introduced in prisons (e.g., methadone maintenance programs) and the new sustained release formulations are safer with lower abuse potential. Concern regarding the potential for abuse is unsubstantiated. Indeed, follow-up studies have shown that the use of prescribed stimulants is more often associated with a reduction in illicit drug use [22].

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The NICE guidelines stated that drug treatment for ADHD should always be considered as part of a comprehensive treatment program addressing psychological, behavioral, educational or occupational needs. This is particularly important for ADHD offenders whose treatment goals are not limited to conferring health gain, but include the need to rehabilitate the individual and, more widely, reduce risk to society and deliver justice. For those in institutional settings, an additional target of treatment is to reduce violent outbursts and behavioral disturbance, and encourage attendance at educational, occupational and therapeutic activities. Medication alone will not achieve all of these aims, but it is likely to improve adherence to such activities. In particular, adherence to offender treatment programs is essential as noncompletion may increase risk of offending [23,24].

In the past few years, offending interventions have shifted towards the provision of an evidenced-based 'What Works' approach, with its inclusion of three principles: risk assessment, criminogenic needs and responsivity [25,26]. This approach advances the need to match the content and pace of treatment to specific offender characteristics, thus emphasizing the importance

of adjusting treatment programs to maximize learning. In turn, engagement and completion rates are likely to be improved by programs that adhere to these principles. Consistent with these aims, psychological programs have been adapted to suit those with ADHD (e.g., [27]) and for offenders the renowned Reasoning and Rehabilitation (R&R) has been specifically adapted to be delivered to youths (aged 13 years or older) and adults with ADHD [28]. R&R has a host of international accreditations and is the most influential and widely adopted group offending behavior program available. Meta-analysis of the original program has demonstrated a 14% decrease in re-offending for R&R participants in institutional settings and a 21% decrease for participants in community settings [29]. The revised R&R2 ADHD program is currently being evaluated in a community randomized controlled trial comparing a medication-only arm with a cognitive–behavioral therapy plus medication arm in Iceland. Pilot data (n = 27 for each arm) are promising and show that the multimodal treatment is effective in reducing symptoms of ADHD, emotional control, social functioning, anxiety and depression. Self-rated improvement was endorsed by an independent evaluator and, importantly, the effect improved further at 3-month follow-up [30]. These findings are consistent with evidence from studies in children that multimodal treatments (i.e., a combination of psychological and drug treatments) lead to greater effects on comorbidity and greater sustained effects [19].

Treatment of adult ADHD with psychological therapy (in both offending and nonoffending populations) is an under-researched area and a priority for future research. For offenders it will be important to evaluate long-term outcomes, such as reconviction rates, in addition to clinical and social outcomes (e.g., change in symptoms, quality of life, cognitive skills, antisocial attitudes and behaviors more generally).

Conclusion

In 2007, the Bradley report was commissioned to investigate provisions for offenders with mental health problems or learning disabilities in the Criminal Justice System [103]. The report was embraced by the Department of Health who responded constructively [104]. However the Bradley report ignored ADHD as a mental health need in spite of this being a treatable condition that may lead to crime reduction by directly treating the disorder (i.e., reducing symptoms) and by improving engagement with rehabilitative programs. Moreover, with early intervention there is the potential to divert youths away from a criminal trajectory and/or reduce recidivism. This omission illustrates the enormity of the task before us in introducing the Criminal Justice System to ADHD. Failure to recognize and treat ADHD offenders is likely to have serious consequences for mental health and social outcomes. The high rates of ADHD among this group, the consumption and costs of the resources they incur, mean that it is not a condition we can afford to ignore.

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