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# The health and social outcomes of untreated Attention Deficit Hyperactivity Disorder and the Role of the Mental Health Nurse.

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**Abstract:** Attention Deficit Hyperactivity Disorder (ADHD) has long been a contentious and polarising issue in mental health care. Mental health nurses are regularly responsible for the care, treatment and care co-ordination of individuals with a diagnosis of ADHD. This means that mental health nurses are in one of the best positions to have a positive impact on people with ADHD's lives. This article aims to be a refresher to mental health nurses of the

lifetime health outcomes and risks associated with ADHD. This article discusses a multitude of factors, such as increased rates of substance abuse and addiction, higher instances of self-harm and suicide, reduced life expectancy, increased driving risk, poorer educational outcomes, and reduced professional outcomes. The role of the mental health nurse is central in supporting service users to seek appropriate, evidence based treatment. Improving mental health nurses' understanding and information will enable practitioners to make informed decisions regarding the care and treatment of service users.

In a blog post on the National Institute of Mental Health's (NIMH) website in 2013, Thomas Insel put forth a concern that labelling some mental health disorders as serious mental illness (SMI) may lead to the conceptualisation of other illnesses and disorders as being 'less significant' (2013). This article will provide an evidence based argument as to why it may be appropriate for mental health staff to consider ADHD as a 'significant', if not 'serious', mental disorder, and that the lack of the 'SMI' label does not necessitate a reduction in professional concern.

Since the National Institute for Health and Care Excellence (NICE, 2008) recommendation that the treatment of ADHD be increasingly situated in children's mental health services, mental health nurses are now more than ever, supporting individuals with this diagnosis. This article hopes to serve as an update for nursing staff of the seriousness of the risks associated with untreated ADHD and a refresher of the overall health concerns for the majority of individuals with the diagnosis.

### What is ADHD?

Given the nature of the human experience, most of us will at some point struggle with maintaining appropriate attention, become restless or fidgety, or act in a way which does not take into account potential consequences. However, individuals diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) suffer from Inattention, hyperactivity and impulsivity to such a degree so as to fulfil the criteria of a psychiatric disorder (APA, 2013). The validity of the diagnosis of ADHD has come under some scrutiny in popular culture, with narratives of "naughty children and bad parenting" or in the form of book titles such as "ADHD DOES NOT EXIST" (Saul, 2014; Smith, 2014). Regardless, ADHD is accepted within the World Health Organisation (WHO), National Institute for Health and Care Excellence (NICE) and the American Psychological Association as a pervasive and potentially debilitating disorder, affecting around 3-5% of school age children in the UK (NICE, 2008), with around 65% of symptoms and impairments continuing into adulthood (Faraone, Biederman & Mick, 2006).

As ADHD is becoming increasingly more recognised as a potential life-long disorder, is it worth stating that the 'true burden' of ADHD is only apparent when one considers not only the current impact, but also the potential impact across the individual's entire life (Erskine et al, 2016). Unfortunately, ADHD in childhood has now become a relatively reliable predictor of poor outcomes across emotional, social, academic and psychological domains (Lee et al, 2011). This article hopes to articulate the realities of this more specifically. Shaw et al (2012) performed a systematic review and analysis of long-term treatment outcomes for ADHD. They discovered that 74% (244 studies total) showed that individuals with untreated ADHD had poorer outcomes than non-ADHD controls.

### **Educational outcome**

ADHD and education traditionally have had a conflicting relationship. However, as our understanding of the condition has improved, this relationship has developed into one of support and cohabitation. The unfortunate reality of ADHD is that young sufferers are likely to have 'poorer test results, reading ability and maths scores' whilst also having a "4-6 times increased likelihood of utilising special educational services, alongside increased rates of detention and expulsion" (Loe and Feldman, 2007; Erskine et al, 2016). Birchwood and Daley found that ADHD symptoms can be almost as important as cognitive ability and motivation at predicting GCSE performance (2012). These difficulties continue throughout the educational journey, making sufferers 3 times more likely to fail to complete high school education, and 6 times less likely to enrol in university degrees (Erskine et al, 2016). In the unlikely event that someone with ADHD is able to attend university, they have an increased dropout rate and poorer post college (university) occupational status (Loe & Feldman, 2007; Kuriyan et al, 2012). Overall, individuals with a diagnosis of ADHD, on average, achieve lower total levels

of educations and are less likely to have positive occupational outcomes. Although the role of the mental health nurse does not generally encompass education, it is well understood that an individuals' experience of school and work has an impact on overall mental health and well-being.

### **Substance abuse and addiction**

A Meta-analysis looking at the association between ADHD and substance abuse (Lee et al, 2011) found some particularly sobering results. Children and young people with ADHD were significantly more likely to *have used* nicotine or illicit drugs, but not alcohol. Previously, Burke, Loeber and Lahey (2001) found that 51% of teenagers with ADHD reported tobacco use. The Meta analysis also found that they were significantly more likely to develop disorders of abuse for nicotine, alcohol, marijuana, cocaine and other substances, with rough estimates of at least 1.5 times more likely for substance abuse and 3x more likely for nicotine than the general public. Interestingly, they also found that this detrimental effect was consistent across demographic indicators (Race, gender, sample source). A recent study by Galán and Humphreys (2017) found that approximately 15% of adolescents with ADHD have a substance abuse disorder, whilst 11% of individuals with a substance abuse disorders also had a diagnosis of ADHD. This led to difficulties regarding which disorder to be treated first, as each disorder reduces the efficacy of the treatment of the other.

### **Stimulant Medication and risk of substance abuse**

There has been some concern raised over the last few decades that stimulant medication used in the treatment of ADHD may increase the likelihood of further substance abuse. However, there is a growing body of evidence indicating that appropriate treatment of ADHD, including treatment via stimulant medication, actually reduces this risk.

In Switzerland, a study looking at over 38,000 participants found that the rate of substance abuse was 31% lower for individuals who had been prescribed ADHD medication than for those not prescribed (Chang et al, 2014). Showing that the protective effect of appropriately treated ADHD is important in reducing the likelihood of future substance abuse for individuals diagnosed. Further, the longer an individual was taking ADHD medication, the less likely they were to develop a substance abuse problem (Chang et al, 2014). This finding was echoed in a meta-analysis completed by Humphreys et al (2013) who found that the use of stimulant medication 'did not have a significant impact on the rates of substance abuse with relation to alcohol, cocaine, marijuana, nicotine and nonspecific drugs'. One could argue then that the treatment of ADHD appears to "do no/little harm" with regard to exacerbating or creating substance abuse difficulties and appears to actually be beneficial. The implication for mental health nursing staff is that, due to the high prevalence of substance difficulties in this particular population, offering additional support regarding substance use and alcohol use may be a prudent step in ensuring improved outcomes, whether this take the form of psychopharmacological intervention or psychological intervention is to be determined on a case by case basis. Further, due to the complexities of dual diagnosis, specialist intervention may be utilised more frequently in this service user group.

### **Self-harm & Suicide**

It can be difficult to determine the exact impact of ADHD on self-harm and suicidality as ADHD, particularly in adulthood, is associated with a high prevalence of comorbid disorders (Barkley, 2015). Notwithstanding, growing evidence suggests that individuals with a diagnosis of ADHD are at an increased and significant risk of experiencing suicidal ideation and completing suicide (Furczyk & Thome, 2014). The risks associated become more substantial when coupled with a comorbid diagnosis related to increased risk of suicidality (depression, psychotic illness, personality disorder or substance abuse). ADHD sufferers are more likely than a control group to attempt suicide, with a 2.9 times increased suicide risk, and a 2.4 times

increased intentional injury rate. (Swensen et al, 2002). Despite these statistics, there is little in the way of targeted suicide prevention for individuals with ADHD and it may be that nursing staff working with these individuals need to be mindful of the potential need to offer additional support in this area. One way in which this could be achieved is by nurses offering additional emotional support and advice around self-harm and low mood as standard to all individuals, prior to referral or utilisation of specific psychological interventions.

## **Driving**

When discussing mental disorders and risk, driving is not necessarily at the forefront of people's minds. However, driving brings additional concerns to individuals with ADHD. ADHD and driving is associated with "Variable reaction times, impulsive errors, more variable steering and greater inattention while driving" (Barkley et al, 2002). They are more likely to have been in 'trouble' with driving control services, such as an increased likelihood of having speeding fines and points on their driving licence (Barkley, 2004). Perhaps more concerning is that Barkley found that individuals have an increased likelihood of being in a road traffic accident, both minor and significant. This means that driving becomes an almost daily hazard for individuals with ADHD not shared with those sans diagnosis. Individuals diagnosed with ADHD are now required to inform the Driver and Vehicle Licensing Agency (DVLA) of their diagnosis. It may be beneficial for mental health nursing staff to discuss driving and its associated risks in an open and honest way with individuals with new and existing diagnosis.

## **Prison**

A tragic reality of ADHD is that individuals diagnosed are disproportionately represented within the prison population. Young et al (2014) completed a meta-analysis looking at incarceration



and ADHD and found a 25.5% estimated prevalence of individuals in prison who have or have had an ADHD diagnosis. More specifically this meant that if you were an adult with ADHD you had a 10 fold (26.2%) increased likelihood of being in prison. In youth prison populations, there is also a 5 fold (30.1%) increase over the general public. Continuing this trend, individuals with a diagnosis of ADHD have greater recidivism rates, more institutional behaviour disturbances noted, and are more likely to begin offending and attend prison at a younger age (Young et al, 2014).

Although not UK based, the Swedish national register found that 36.6% of ADHD males and 5.4% of females were convicted of a crime (Lichtenstein et al, 2012). The good news is that ADHD medication reduced this risk of criminality by 32% and 41% respectively (Lichtenstein et al, 2012). It was not the purpose of the study to determine whether non-medication treatment had a positive impact on criminality. All of this being said, mental health nurses working with people with a diagnosis of ADHD are more likely to experience patients who have previously been in contact with the criminal justice system, or at the very least are more likely to be have difficulties with criminality than the public. It is hoped that additional knowledge of these potential issues will allow nurses to be cognizant of the risks associated with criminality, and reduce the likelihood of their occurring via supplying evidence-based advice of the positives and negatives of treatment to sufferers and their families.

### **Life expectancy**

Finally, perhaps the most important of life predictors, life expectancy. Individuals with ADHD are more than twice as likely as controls to die prematurely from their misadventures (Barkley 2015 citing Swensen et al, 2004). Although there are limited large sample size studies with relation to ADHD and life expectancy, it can be “reasonably foreseen” that individuals with ADHD are likely to have a significantly shortened life expectancy than typical individuals (Barkley, 2014). Although it is unlikely that there is any significant impact that individuals can have on this particular metric, it is likely that, with appropriate treatment and reduction of all previous risk factors accounted for within this article, we would expect an improvement on

overall life expectancy. This, the role of the mental health nurse is of great importance in providing holistic, evidence based care which focusses on promoting effective treatment and reducing the likelihood of risk.

## **Conclusions**

This article attempts to shed light on the significant and varied risks associated with a diagnosis of attention deficit hyperactivity disorder. It has called upon evidence to discuss the risks associated with the disorder more generally, whilst maintaining that these outcomes become even bleaker when the individual is not currently undergoing any form of evidence based treatment.

As previously cited, Shaw Et al (2012) found that treatment had a positive benefit on outcomes for individuals with ADHD on 72% of the varied outcomes measured. Showing that treatment for ADHD can be an effective in positively supplementing individual experience.

This article reiterates the importance of mental health staff assisting service users in seeking out the most appropriate treatment when diagnosed with ADHD.

## **Conflict of Interest**

The author declares no conflicts of interest with regard to the written article.

## **Main points**

- Untreated ADHD has significant and wide ranging negative health and social outcomes
- Mental Health nurses have an increasingly influential role in the care and treatment of individuals diagnosed with ADHD

- People diagnosed with ADHD have poorer outcomes when compared with the public in relation to substance abuse and addiction, self-harm and suicide, driving risk, prison, life expectancy, educational attainment and professional outcomes.

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