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Research paper

Substance use disorder in Asperger syndrome: An investigation into the development and maintenance of substance use disorder by individuals with a diagnosis of Asperger syndrome

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ABSTRACT

Background: Recent research has suggested that the prevalence of problematic substance use within the Asperger syndrome population has previously been underestimated. Furthermore, there is some indication that problematic substance use might take place to manage the traits of Asperger syndrome; however this possibility has yet to be examined in detail. This study aimed to address this omission by exploring individuals' perceptions of their substance use in relation to their diagnosis of Asperger syndrome.
Methods: Eight participants were recruited from either a specialist Asperger syndrome service or a drug and alcohol service. Participants were interviewed regarding their views of which factors led to their development and maintenance of problematic substance use, specifically in relation to their experience of having been diagnosed with Asperger syndrome. Thematic analysis was conducted on the interview transcripts.
Results: Six main themes were identified: self-medication; social facilitation; discrepancy between need and support; defining problematic substance use; substance use of peers, and recreational use of substances. The two themes of social facilitation and self-medication are focused on within this paper as they most closely reflect the more prominent bodies of literature in relation to the research aim.
Conclusions: Participants reported that substances were used to act as a social facilitator to compensate for social deficits by increasing confidence in social settings and increasing participants' ease with which they communicate. The self-medication of psychological distress was reported and was associated with depression, anxiety and sleep difficulties. The study ends with a reflection on the method of data collection, the implications for clinical practice and suggestions for future research.

Introduction

Asperger syndrome

Asperger syndrome is a pervasive developmental disorder (PDD) located on the higher functioning end of the autistic spectrum. Asperger syndrome is characterised by the impairment of social communication, social interaction and flexibility of thinking, in addition to problems with imagination (Attwood, 2006). The International Classification of Diseases (ICD-10; World Health Organization, 2007) emphasises the deficits in the ability to engage in reciprocal social interaction, in addition to highlighting the repetitive and very restricted focus on specific interests. The diagnostic and statistical manual of mental disorders (DSM-IV; American Psychiatric Association, 1994) encompasses a similar definition but also highlights the lack of emotional reciprocity in social interaction. The impairment of social communication is thought to be rooted in poor theory of mind (Baron-Cohen, 2000), consequently making it difficult to notice the very subtle nuances of social interactions (Lindner & Rosén, 2006).

Prevalence rates of Asperger syndrome have been estimated to be approximately one in every hundred people (Brugha et al., 2011), the average age of diagnosis is 11 years of age (Howlin & Asgharian, 1999), and it is predominantly diagnosed in men (Whiteley, Todd, Carr, & Shattock, 2010). However, defining the specific characteristics of Asperger syndrome has been

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complicated by recent research which has explored the high levels of comorbidity with attention deficit hyperactivity disorder (ADHD; Gargaro, Rinehart, Bradshaw, Tonge, & Sheppard, 2010). The high levels of comorbidity are thought to be due to overlapping presentations as opposed to two distinct clinical presentations coexisting (Clark, Feehan, Tinline, & Vostanis, 1999; Mayes, Calhoun, Mayes, & Molitoris, 2011).

Asperger syndrome and ADHD

Given their overlapping presentations, unsurprisingly Asperger syndrome and ADHD share a number of comorbid mental health difficulties in common (Biederman, 2004). Yet it would appear that a distinguishing feature between these two presentations is the prevalence of substance use disorder (SUD), which is reported less frequently within Asperger syndrome samples (Ohlmeier et al., 2008; Lugnegård, Hallerbäck, & Gillberg, 2011).

Research has suggested that substance use by individuals with a diagnosis of ADHD is thought to be in an effort to manage the traits typical of ADHD (Wilens, Biederman, Mick, Faraone, & Spencer, 1997; Wilens, 2004; Wilens et al., 2007, 2011). This research has enabled the development of specialist tailored substance use interventions for a clinical population that has previously been believed to be challenging to treat (Kalbag & Levin, 2005). Therefore this research has proven to be invaluable when assessing, formulating and designing substance use interventions for this population. Given the specific aetiology of SUD within ADHD samples, it is surprising to find that the same exploration has not occurred for Asperger syndrome.

Asperger syndrome and substance use

The perceived low prevalence of substance use within the autistic spectrum disorder population has even resulted in conjecture as to whether autistic traits are a protective factor against the development of substance use disorder. Previous researchers have speculated that the social deficits characteristic of autism act as an obstacle to individuals being introduced to substances (Santosh & Mijovic, 2006; Tinsley & Hendrickx, 2008).

Interestingly recent research has reported that Asperger syndrome traits may in fact be a risk factor for the development of mental health difficulties, including substance use (Lundström et al., 2011). Furthermore, research has found that when compared to an ADHD sample, individuals with a diagnosis of Asperger syndrome and SUD were prone to the same risk factors as participants with ADHD. Moreover comorbid SUD prevalence rates within the Asperger syndrome sample for this study were comparable to the wider psychiatric population (Sizoo et al., 2010). Whilst this research demonstrates that comorbid SUD and Asperger syndrome is of clinical concern, it has done so in comparison to ADHD, with little exploration as to whether traits specific to Asperger syndrome contribute to the development of SUD.

Tinsley and Hendrickx (2008) commented that substances may be used by individuals with a diagnosis of Asperger syndrome to self-medicate or mask social deficits in an effort to attain a sense of social inclusiveness. This seems plausible given that research suggests that individuals with a diagnosis of Asperger syndrome often feel isolated due to their social difficulties, yet seek to feel socially included (Muller, Schuler & Yates, 2008).

Sizoo et al. (2009) touched upon the use of substances to address these social difficulties when investigating the ability of the Autism quotient (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001) to discriminate between Asperger syndrome and ADHD within varying SUD statuses. Interestingly, the results indicated that participants with a diagnosis of Asperger syndrome and SUD reported less impairment in the questionnaire's items that related to social skills than those without current SUD. It was proposed that this decrease in the impairment of self-reported social skills may suggest that substances are used by this population to serve a specific function relating to their social skills deficits.

Social deficits and substance use

Whilst social skill deficits are one of a number of traits indicative of Asperger syndrome, they are also present throughout varying clinical and non-clinical populations, and have been found to be an accurate predictor of substance use (Greene et al., 1999; Kumpfer & Turner, 1990; Lewis & O'Neill, 2000).

Self-medication hypothesis

The self-medication hypothesis proposes that a substance is used due to its pharmaceutical properties that are able to moderate psychological distress, e.g. social anxiety (Khantzian, 1985, 1997).

Despite its popularity, the self-medication hypothesis has received criticism as it presumes that substance use within a clinical population is primarily motivated by an individual's specific presenting problem. Thus little attention is paid to the role of cognitions or individual differences. This has resulted in an alternative to the self-medication hypothesis being developed: expectancy theory (Oei & Baldwin, 1994). This states that the fulfilment of specific expectations that an individual holds regarding the consumption of a substance leads to its increased and continued use (Brown, Christiansen, & Goldman, 1987). Regarding social anxiety, expectations of social facilitation or social assertiveness have been found to be predictive of alcohol consumption in the socially anxious (e.g. Ham, 2009).

Rationale for study

Individuals with a diagnosis of Asperger syndrome also experience a host of difficulties other than social anxiety, many of which have also been identified as potential risk factors within the substance use literature, both within clinical and non-clinical populations. For instance high comorbidity rates with depression (Swendsen & Merikangas, 2000; Bellini, 2006), poor sleep (Fakier & Wild, 2011; Hasler, Smith, Cousins, & Bootzin, 2012) and possessing few social resources with which to cope with life stressors (Rhodes & Jason, 1990; Attwood, 2006), which are also frequently reported within both SUD and Asperger syndrome literature.

Most notably it is apparent that the social deficits characteristic of Asperger syndrome may leave this population vulnerable to the development of substance use. It is well established within the substance use research literature that individuals who experience social anxiety, yet seek social inclusion, are at high risk of developing SUD (Carrigan & Randall, 2003; Gilles, Turk, & Fresco, 2006; Ham, 2009). Given the specific social deficits of Asperger syndrome this population may be particularly at risk.

Yet, the model of behavioural reinforcement that underpins both the self-medication hypothesis and expectancy theory may not be applicable to an autistic spectrum disorder population for the purpose of explaining alcohol use for social facilitation. Studies have found that the behaviour of individuals on the autistic spectrum is rarely reinforced by socially orientated rewards (Damiano, Aloi, Treadway, Bodfish, & Dichter, 2012; Dichter & Adolphs, 2012). Thus theoretically, the use of substances for the purpose of social inclusion is unlikely. Nevertheless, Kohls, Peltzer, Herpertz-Dahlmann, and Konrad (2009) are keen to point out that low social reward sensitivity is not inherent in all individuals with an autistic spectrum diagnosis, but is moderated by a number of

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