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## Review

# Psychopharmacological treatment of challenging behaviours in adults with autism and intellectual disabilities: A systematic review



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### ABSTRACT

**Introduction:** Autism is a neurodevelopmental disorder with a high co-occurrence with intellectual disability. Adults with Autism and intellectual disability have a high incidence of challenging behaviour, defined as repetitive self injurious or aggressive behaviour. We underwent a systemic review of the evidence for treating challenging behaviours in adults with Autism and intellectual disability.

**Methods:** A literature search was conducted using three large databases to extract studies on the treatment of challenging behaviour among adults with Autism and intellectual disability. Papers, which met this criterion, were reviewed and analysed to assess study evidence and quality.

**Results:** Seven articles were selected which included five agents: fluvoxamine, sertraline, clomipramine, risperidone, and ziprasidone. Randomized control studies of fluvoxamine and risperidone, provided efficacy for the treatment of challenging behaviour in adults with Autism and intellectual disability. Open label trials of sertraline, clomipramine and ziprasidone were also effective in treating challenging behaviours for this population.

**Discussion:** Risperidone and fluvoxamine provided the best evidence for treating challenging behaviour, and risperidone was the only medication with multiple trials showing its efficacy. Further studies are required to demonstrate the efficacy of psychopharmacology in treating challenging behaviours among adults with Autism and intellectual disability.

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## 1. Introduction

Autism is a neurodevelopmental disorder characterized by deficits in communication and social interactions, as well as patterns of repetitive or restrictive behaviours and interests (5th ed., DSM-5, American Psychiatric Association, 2013). Intellectual disability (ID) and Autism co-occur at high rates, with rates of ID estimated to affect between 38% and 70% of individuals with Autism (Autism and Developmental Disabilities Monitoring Network Surveillance Year 2008 Principal Investigators, 2012; Bryson, Bradley, Thompson, & Wainwright, 2008; Edelson, 2006; Matson & Shoemaker, 2009).

Challenging behaviour occurs at very high rates among individuals with Autism (Matson, Sipes, Fodstad, & Fitzgerald, 2011; McCarthy et al., 2010), and is broadly defined as behaviour that jeopardizes an individual or excludes them from community involvement (Matson et al., 2011; McCarthy et al., 2010). Since such a broad definition can encompass a range of behaviours, a more specific definition commonly used by other researchers is aggressive, self injurious or repetitive/stereotyped behaviour that is not caused by a major mental illness (Beherec et al., 2011; Emerson & Bromley, 1995; Matson et al., 2011). Aggression, self injury and repetitive or stereotyped behaviour are common causes of referrals to mental health services in adults with Autism and ID (Cohn & Sernyak, 2006; Hassiotis, Parkes, Jones, Fitzgerald, & Romeo, 2008; Tsakanikos, Sturmey, Costello, Holt, & Bouras, 2007), and are also common target symptoms for psychopharmacology (Lake, Balogh, & Lunskey, 2012; Myers, 2007). Some researchers have suggested that challenging behaviour is more common among individuals with Autism and ID compared to those with Autism and average to above average IQ, and that more severe challenging behaviour is associated with greater cognitive impairment (Matson & Rivet, 2008; O'Brien & Pearson, 2004). For example, rates of challenging behaviour in one study were as high as 87.9% among adults with Autism and ID (McCarthy et al., 2010).

Challenging behaviour can also have a significant negative impact on the lives of individuals with Autism and their caregivers. In one study, challenging behaviour, not a primary psychiatric diagnosis, was the most common reason for individuals with Autism and ID to present to a mental health clinic (Tsakanikos et al., 2007). Several studies demonstrate that challenging behaviour is a barrier to employment, residence, and access to community-based services among adults with Autism (Graetz, 2010; Matson & Rivet, 2008; McGill & Poynter, 2012). Further, challenging behaviour impedes learning, social and adaptive skill acquisition (Herzinger & Campbell, 2007), and may lead to extended hospital admissions (Beherec et al., 2011) or the use of physical or chemical restraints (Sturmey, Lott, Laud, & Matson, 2005). Financially, there are also significant costs and resources associated with caring for individuals with Autism and challenging behaviour (Hassiotis et al., 2008). In adulthood, these consequences may be further magnified simply because of the individual's physical size. Thus, adults with Autism, ID, and challenging behaviour, represent a unique and particularly difficult population to serve.

A number of studies provide evidence for the use of behavioural and psychosocial interventions as a first line treatment for the core symptoms of Autism in children (Ospina et al., 2008), however, behavioural interventions in adults with Autism and ID are not well studied. Clinically, we know that challenging behaviour can represent communication of an unmet need, and when communication is the aetiology of the challenging behaviour non-pharmacological approaches are often effective (Kevan, 2003). Further, the National Institute for Health and Clinical Excellence, UK (NICE) guidelines suggest that psychopharmacological treatment of challenging behaviours in individuals with Autism should only be used in conjunction with non-pharmacological approaches when challenging behaviours persist in the presence of psychosocial interventions alone (NICE, 2012). Despite this, psychopharmacology is often the first treatment approach for challenging behaviour (Myers, 2007; Tsakanikos et al., 2007), and once an individual is placed on psychotropic medication, they are likely to have medications added rather than removed (Esbensen, Greenberg, Seltzer, & Aman, 2009; Myers, 2007).

Despite our knowledge that adults with Autism are often prescribed multiple psychotropic medications (Aman, Van Bourgondien, Wolford, & Sarphare, 1995; Aman, Lam, & Collier-Crespin, 2003; Aman, Lam, & Van Bourgondien, 2005; Dove et al., 2012; Esbensen et al., 2009; Lake et al., 2012; Lunskey & Elserafi, 2012), and that psychotropic medications are often the

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