

Commentary: Suicide risk is high, but often overlooked, in autistic spectrum disorder populations

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Self-Harm Significantly Higher in Populations with ADHD, Anxiety, ASD, Depression, and Eating Disorders. I appreciated your recent paper on the large and well-matched studies on nonfatal self-harm and suicide among adolescents in the UK Clinical Practice Research Datalink (Cybulski et al., 2021). This large study involved 56,008 self-harm cases and 1,399,356 controls aged 10–19 years and reported that many diagnoses were associated with significantly higher rates of self-harm. Compared to controls, the risk of self-harm was significantly higher in attention-deficit/hyperactivity disorder (ADHD) (OR 3.3, 95% CI 3.1–3.4), anxiety disorder (OR 3.8, 95% CI 3.7–3.9), autism spectrum disorder (ASD) (OR 2.4, 95% CI 2.3–2.6), depression (OR 7.9, 95% CI 7.8–8.2), and eating disorders (OR 3.1, 95% CI 3.0–3.2) (Cybulski et al., 2021).

Depression, Suicide Attempts, and Completed Suicide High in ASD Community. One often-overlooked risk factor for severe depression, suicidal ideation, and completed suicide in both adolescents and adults is ASD/Asperger status. Depression is often related to suicidal behavior, and depression rates are very high in ASD communities, with one meta-analysis of 35 studies involving ASD adults reporting a mean current and lifetime prevalences for depression of 23% and 37% (26,070 subjects) and current and lifetime prevalences for anxiety disorders of 27% and 42% (26,117 subjects) (Hollocks, Lerh, Magiati, Meiser-Stedman, & Brugha, 2019). Another review of 12 papers reported that between 7% and 47% of ASD subjects had a history of suicide attempts (Zahid & Upthegrove, 2017). A 2014 British study of 374 adults diagnosed with Asperger's reported that 243 self-reported suicidal ideation (66%), a rate much higher than the British population as a whole (OR 9.6, 95% CI 7.6–11.9) (Cassidy et al., 2014). Although most studies with the general population have reported that most suicidal subjects in the general population are depressed, this study reported that only 31% of the Asperger's patients were depressed (Cassidy et al., 2014).

Two large and statistically robust studies involving Sweden and Denmark report that suicide rates are much higher in ASD populations (including adolescents and adults) as compared to the population as a

whole (Hirvikoski et al., 2019; Kolves, Fitzgerald, Nordentoft, Wood, & Erlangsen, 2021). Kolves et al analyzed 6,559,266 subjects including 35,020 with ASD diagnoses between 1995 and 2016 (Kolves et al., 2021). This study involved all Danish individuals over the age of 10 years with a mean age of ASD diagnosis of 13.4 years. The rate of completed suicide was 3.75 as great in the ASD population as compared to the rest of the population (overall RR 3.75, 95% CI 2.85–4.92) (Kolves et al., 2021). The rate of suicide attempts was also more than three times greater in the ASD community (OR 3.19, 95% CI 2.93–3.456) (Kolves et al., 2021). Another huge Scandinavian study of 54,168 ASD subjects (43,570 without intellectual impairment) and 270,840 controls was done by Hirvikoski et al. (2019). This study involved Swedish subjects of all ages and the median and mean age of ASD diagnosis was 14.31 and 18.89 years. In this Swedish population, completed suicide risk for ASD without an intellectual disability was 8.13 times that of neurotypicals (overall OR 8.13, 95% CI 6.23–10.60, for females OR 12.05, 95% CI 6.85–21.21 and for males OR 7.19, 95% CI 5.31–9.71) (Hirvikoski et al., 2019). The rate of suicide attempts was also much higher in the ASD without intellectual disability population 4.20 (OR 3.96–4.46) (Hirvikoski et al., 2019).

Need for More Research on Risk Factors and Prevention of Suicide and Self-Harm in the ASD Community. There is a lack of good research on behaviors and epidemiology related to suicide attempts and completed suicide in the autism spectrum community, especially among children and adolescents (Cassidy, Bradley, Shaw, & Baron-Cohen, 2018; Hannon & Taylor, 2013; McDonnell et al., 2020; Zahid & Upthegrove, 2017). There is a particular lack of studies that address protective factors and ways of preventing suicidality in the ASD community (Segers & Rawana, 2014).

The reasons why suicide and suicide attempts are so high in the ASD community are multifactorial and include lack of social support, loneliness, comorbid medical conditions such as depression/ anxiety, high un/underemployment, bullying, physical and sexual abuse, and probably many others (Cassidy et al., 2014, 2018; McDonnell et al., 2020). A review of 10 studies of suicidality in the ASD community (a mixture of children, adolescents, and adults) identified numerous risk factors including personality and

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behavioral disorders, being male, African American, or Hispanic; and lower educational and socioeconomic levels (Segers & Rawana, 2014). ASD children, adolescents, and adults are more likely to experience bullying, sexual/financial/physical abuse as compared to neurotypicals. A study of 42 adolescents and adults with Asperger's reported that 95% had been bullied and 40% had been financially or sexually exploited (Balfe & Tantam, 2010). The Mandell et al. study of 156 autistic children with a mean age of 11.6 years reported that history of suicide attempts were quite common in those experiencing either physical or sexual abuse (physically abused 22 children which had a 31.6% history of suicide attempts and sexually abused 26 children which had a 40% history of suicide attempts) (Mandell, Walrath, Manteuffel, Sgro, & Pinto-Martin, 2005).

A Canadian study of 481 children with diagnosed ASD aged 6–19 years measured talking about suicide, self-harm, and suicide attempts (McDonnell et al., 2020). The following factors were associated with a significantly greater risk of self-harm or suicide attempts: increased child age, increased Social Communication Questionnaire reciprocal social interaction domain, higher Vineland communication domains, daily living skills, and socialization scores (McDonnell et al., 2020). In addition, higher scores in the Child Behavior Checklist instrument in all of the following scales were associated with significantly higher levels of self-harm or suicide attempts: affective problems, anxiety problems, somatic problems, ADHD problems, oppositional defiant problems, and conduct problems ($p \leq .001$ in all cases) (McDonnell et al., 2020).

The high unemployment rate among autistic adults may also increase the risk of severe depression and suicide. A study of 254 ASD subjects reported that while 69% of this population had at least one college degree, the group had an unemployment rate of 39% (Ohl et al., 2017).

A study of 164 autistic adults and 169 general population adults reported that 72% of autistic adults and 33% of the general population adults exceeded the recommended cutoff for suicide risk on the Suicide Behaviors Questionnaire-Revised (Cassidy et al., 2018). In autistic adults, nonsuicidal self-injury, camouflaging, and the number of unmet support needs predicted a greater risk of suicidality (Cassidy et al., 2018).

There is relatively little research directed at suicide prevention specifically for the ASD community (Hirvikoski et al., 2020; Kolves et al., 2021; Segers & Rawana, 2014). Hirvikoski suggests that a multifaceted approach to preventing ASD suicide including adequate access to mental health care, mental health screening and suicide risk assessment, treatment of psychological comorbidities like depression, and more social support and interaction may be helpful in reducing suicide (Hirvikoski et al., 2020). Some researchers suggest that techniques for

preventing suicidality in the general population may be useful for the ASD community (Segers & Rawana, 2014). Such prevention factors and techniques include social support, problem coping, active participation, religious support, hopefulness, the presence of children in the home, and fear of death and dying (Segers & Rawana, 2014).

The autism spectrum/Asperger community is at very high risk for suicide. Much more community support, clinical attention, and good quality research are needed to prevent and treat depression and suicide among children, adolescents, and adults in the autism spectrum community (Lai, Nicholas, & D., 2017). There is also a need for better training on autism spectrum issues for medical personnel, community support services, family members, and schools/employers (Lai et al., 2017). Many high functioning autistic people have so much to offer (such as Alan Turing), and the suicide of such gifted persons is not only a personal tragedy but a great loss to society as a whole.

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