Five Ways Providers Can Improve Mental Healthcare for Autistic Adults: A Review of Mental Healthcare Use, Barriers to Care, and Evidence-Based Recommendations

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Abstract

Purpose of Review  We reviewed the literature from 2017 to 2022 on autistic adults’ use of mental healthcare and barriers to care. To encourage immediate improvement in mental healthcare, we provide five strategies mental health providers can use to better care for autistic adults.

Recent Findings  Most autistic adults use mental healthcare and use it more often than non-autistic adults. Autistic adults’ experiences with mental healthcare are characterized by (1) lack of providers knowledgeable about autism, (2) use of treatments that may not be accommodating to individual needs, and (3) difficulty navigating the complex healthcare system. These barriers contribute to prevalent unmet needs for mental healthcare.

Summary  Autistic adults use mental healthcare frequently but have unmet mental health needs. As necessary systemic changes develop, providers can begin immediately to better care for autistic adults by learning about their needs and taking personalized care approaches to meet those needs.

Keywords  Autism · Autistic adult · Mental health · Review

Introduction

Autism is a “broad spectrum of neurodevelopmental differences characterized by social and communication challenges, repetitive behaviors, sensory issues, and unique strengths and differences” [1, 2]. While autism is commonly conceptualized as a condition of childhood, these neurodevelopmental differences are lifelong. As a result, mental healthcare professionals can expect to encounter autistic adults in their practice settings frequently. Fifty thousand autistic individuals reach adulthood each year [3], 10–20% of whom have co-occurring mental health conditions like depression or anxiety [4•]. However, autistic adults often experience barriers to accessing mental healthcare [5, 6••]. These barriers can be due to [a] patient-level characteristics, like challenges with expressive and/or receptive language; [b] provider-level characteristics, like the limited availability of providers trained in autism; and [c] system-level characteristics, like environments that are not accommodating to sensory needs [7••]. Indeed, the healthcare system is unprepared to accommodate the unique needs of autistic adults, underscoring the need for targeted change throughout the system. This position has been voiced strongly by autistic adults, autism advocacy groups, and other members of the autism community [8].

It is particularly important that mental healthcare services are a target of change so that they better meet autistic adults’ needs. In the wake of the global coronavirus pandemic, autistic adults’ mental health has catapulted to the forefront of attention in the autism community [9]. Mental health is
Autistic Adults’ Use of Mental Healthcare Services

Most (53%) autistic adults use mental healthcare services [15]. Often, autistic adults seek mental healthcare services for management of conditions that are common among this population such as attention deficit hyperactivity disorder (ADHD) (25–38%) [4•, 19, 20], anxiety (20%) [4•], depression (11%), and obsessive compulsive disorder (OCD) (5%) [21], rather than for core features of autism itself. One study found that counseling and psychiatry are among the most commonly used services by autistic adults [22]. Overall, approximately 30–64% of autistic adults received psychiatry services in the past year [23, 24]. Among a German sample, 27.98% of autistic adults had at least one visit with an adult psychiatrist, 19.79% had at least one visit with an adult psychotherapist, 7.14% had at least one inpatient psychiatric hospitalization, and 2.5% used a psychiatric outpatient clinic in the past year [23]. A greater proportion of autistic girls and women access psychiatry services, relative to autistic boys and men [24], and they tend to have higher healthcare costs [23].

Overall, autistic adults also tend to use mental healthcare more than the general population and other diagnostic groups [13]. In a Canadian study, autistic adults were twice as likely as adults with other developmental disabilities, and almost 12 times as likely as adults without developmental disabilities, to see a psychiatrist in the past year [25]. Similarly, US-based samples of autistic adults received talk therapy for anxiety or depression more often than non-autistic adults [26], and were more than two times as likely as adults with attention-deficit-hyperactivity disorder (ADHD), and 12 times as likely as non-autistic adults, to have an outpatient mental health visit [27•]. Autistic adults tend to use the emergency department for mental health-related conditions more than non-autistic adults [28] and are nearly five times as likely to have a psychiatric-related emergency department visit than adults without a developmental disability [25].

Further, emerging evidence suggests a significant portion of adults seeking psychiatric care may have undiagnosed autism. A recent study from Sweden found that approximately 19% of adults presenting for outpatient psychiatry services met criteria for an autism diagnosis [29]. Other studies have found that approximately 16% of adults receiving outpatient psychiatry care for depression in Japan [30] and up to 10% of adults receiving inpatient psychiatric care for eating disorders meet criteria for an autism diagnosis [31]. Additional work is needed in this area to understand the generalizability of these findings. However, these studies promote advocating for “routinely considering autism as part of [a] global, holistic assessment” of adults referred to psychiatry [32]. Ultimately, identifying undiagnosed autism among adults may lead to better management of anxiety, depression, eating disorders, and other mental health conditions among this population.

Barriers to Mental Healthcare for Autistic Adults

Lack of Trained Providers

Autistic adults often have difficulty getting adequate support and treatment for their mental health needs [14••]. In part, one reason for this difficulty is the limited availability of autism-trained providers, despite evidence that having a provider who will tailor care to meet autistic adults’ needs may be even more important in mental healthcare than in other healthcare contexts [33]. As a result, autistic adults may seek care from a mental health provider not trained in working with autistic adults who may have preconceived misconceptions about autistic people. For example, some providers may inaccurately believe that autistic adults are unable to or uninterested in developing
social, romantic, or therapeutic patient-provider relationships; these inaccurate assumptions will likely be detrimental to the autistic adults’ wellbeing and hinder their access to equitable, patient-centered healthcare [33–37]. This may also contribute to autistic adults’ lack of comfort in discussing mental health conditions with providers [18], disagreements about the accuracy of their mental health diagnoses [38], and unmet mental healthcare needs.

**Rigid Approaches to Care**

Another barrier is that some providers or clinics are unwilling or unable (e.g., due to being under-resourced) to deviate from the status-quo to meet autistic adults’ individualized needs. These needs might include [a] needing more time to establish rapport [14••], [b] using language literally rather than abstractly [14••], [c] having challenges with receptive and/or expressive language [35], and [d] requiring unique pharmacotherapy approaches [21, 39]. If an autistic adult needs more time to establish rapport with a new provider, having appointments that are too short or too infrequent may hinder the development of a therapeutic relationship and, consequently, hinder improvements in autistic adults’ mental health [14••]. A tendency toward literal use of language may make treatment approaches like cognitive behavioral therapy (CBT), which often relies on abstract verbal reasoning, less helpful for some autistic adults [14••]. When describing how CBT didn’t work for them, one autistic adult said, “[the provider] expected me to be neurotypical, so I would take things too literally and they thought it was a defense mechanism, or I’d try to explain meltdowns and they focused on my thoughts rather than how to deal with over-reactive sensory perception [14••].” Other autistic adults may have difficulty with receptive and/or expressive language; one parent of an autistic adult described how their son “gets overwhelmed with too much verbal input” and, as a result, was discharged from mental healthcare that relied heavily on group therapy and talking [40]. Traditional pharmacotherapy approaches for managing conditions such as ADHD or obsessive-compulsive disorder (OCD) may be less effective for some autistic people [21, 41]. Consideration of different medications or types of therapy in these situations is essential for success. These examples illustrate how a rigid one-size-fits-all approach to mental healthcare, rather than a flexible-patient centered approach, may be detrimental to autistic adults’ mental health outcomes.

**System-Level Barriers**

The healthcare system itself also presents barriers to autistic people accessing the care they need. One Canadian study found 40% of college-aged autistic adults needed mental healthcare but did not receive it because the steps to access care were too complex [42]. Additionally, months-long wait lists for mental healthcare have been described in both USA-based [43] and UK-based studies [18]. Autistic adults described that they felt that they were hurried through care as quickly as possible to make room in the service system for the long list of people waiting for services [18]. This could result in premature discharge from care, which might be dangerous for some patients.

High costs for mental healthcare serve as an additional barrier [23, 44, 45]. Further, as a result of the global coronavirus pandemic, some autistic adults have lost access to mental healthcare that they were receiving before the pandemic [46, 47], requiring them to re-navigate these systems-level barriers as they start over in their search for care; these barriers may be especially problematic for certain subgroups of autistic adults, such as those who are uninsured/underinsured or have highly acute needs for services.

As a result of these barriers, autistic adults experience high rates of unmet mental healthcare needs, despite high utilization of mental healthcare. Recent estimates of the prevalence of unmet mental healthcare needs among autistic adults have ranged from roughly 20–40% [16, 17, 42, 43, 48]. However, some subgroups of autistic adults, such as those who are non-binary, may be at even greater risk of unmet needs for mental healthcare [49] and poorer mental health [50]. Autistic adults’ unmet needs for mental health necessitate immediate action to improve care for this population. While other studies have highlighted system-level strategies [25, 51] or necessary changes at the policy-level [52], we sought to identify five strategies that every mental healthcare provider can use to immediately improve the quality of care they can provide for autistic adults.

**Five Things Every Mental Health Provider Can Do to Better Meet Autistic Adults’ Needs**

**Be an Agent of Change in the Workplace**

Mental healthcare providers can serve an important role as catalysts to build an autism-informed environment. Attending continuing education courses on autism, completing other autism-focused trainings, or self-directed study is a simple way to increase knowledge about autism and correct misconceptions and harmful stereotypes about autistic people. Training can help providers to understand their autistic patients’ needs and provide better care, which has been recommended by autistic adults [14••, 53]. We believe practical trainings are typically more salient for enhancing mental health providers’ practice than those that focus on biological or molecular mechanisms behind autism. Also, when locating a training opportunity or self-directed study materials, we suggest providers: [a] look for trainings/materials that were created by autistic people or co-created via collaboration between autistic and non-autistic people; and [b] select trainings/materials that emphasize neurodiversity-affirming care by promoting well-being in autistic people rather than...
encouraging “passing” as non-autistic at the expense of the autistic person’s health and well-being [54••, 55–57]. We recommend providers look to the following sources of information to enhance their knowledge about autism: Autistic Self Advocacy Network’s resource library (https://autisticadvocacy.org/resources/), Academic Autistic Spectrum Partnership in Research and Education (AASPIRE)’s topics for healthcare providers (https://autismandhealth.org/?a= pv&p=main&theme=ltc&size=small), Asperger/Autism Network (AANE) provider resources (https://www.aane.org/resources/professionals/). We encourage mental health providers to share what they learn about autism with their colleagues (e.g., via lunch-and-learns or other group-based activities), and to talk to other leaders in the workplace about how to be more accommodating of the needs of autistic adults.

Make Thoughtful Language Choices

The language that is used to talk about autism or to refer to autistic people is very important. How autism is discussed, especially by healthcare providers, has implications for how society views autistic people and how autistic people shape their own identity [58]. Some language choices perpetuate the idea that autism is something to be “fixed” or that autistic people are inherently inferior to non-autistic people [54••]. We strongly recommend that providers use thoughtful language that does not perpetuate biases against autistic people or focus solely on perceived deficits. For example, instead of using “functioning labels” (e.g., high/low functioning, high/low severity), we recommend providers instead refer to the individual’s specific strengths and needs, while recognizing that the level of support likely varies across contexts and environments [54••, 59–62]. Rather than referring broadly to “challenging behavior” or “problem behavior,” providers should use more accurate, specific terms such as meltdowns, stimming, self-injury, aggressive behavior, or other descriptors as appropriate [54••, 56, 63–65]. Additional examples of potentially problematic language choices and preferred alternatives recommended by the members of the autistic community are summarized in Table 1 of [54••].

Additionally, when speaking to an autistic individual, we recommend providers mirror the language used by the autistic person (e.g., when deciding whether to say “adult with autism” or “autistic adult”) or ask the individual how they would like to be addressed. If this is not possible to do, we suggest using the language “adult on the autism spectrum” as this phrasing may be considered the least offensive [62, 66]. Providers can positively impact the way that autism is discussed in their workplace by sharing these suggestions, and the importance of language choice when speaking about autism, with colleagues.

Take an Individualized Approach for Autistic Adults’ Mental Health Treatment

Recognizing autistic adults as individuals rather than as members of a homogenous group is an important step to meeting their needs [67•]. Like with any patient, providers should aim to build a working relationship with autistic adult patients to better understand their needs. Ultimately, this may help improve mental health outcomes for autistic adults. For example, providers can take steps to accommodate an autistic adult’s sensory needs to help the individual feel as comfortable as possible and promote satisfaction with healthcare [68]. These accommodations could be as simple as dimming the lights or using only natural light from a window, shutting a door to reduce background noise, or allowing the patient to bypass the waiting room before their appointment.

Regarding treatment and planning, we recommend providers collaborate with the patient to find a treatment approach and style that works well for them. We encourage providers to adjust their patient schedules for autistic adults who may need more mental health session time [26], or increase the frequency of appointments for medication management, as autistic adults may be at increased risk for side-effects of psychotropic medications often used in mental healthcare [69]. To modify CBT to accommodate a patient’s literal use and understanding of language [14••], providers may increase the use of visual supports by using video models of relaxation exercises or reduce abstract language by using concrete terms to explain concepts [70]. Developing autism-specific crisis management plans may be beneficial as well [9]. These, and other individualized patient-centered approaches, are a solid foundation for successful mental health care for autistic adults.

Leverage Autistic Adults’ Strengths in Treatment

Another benefit of establishing a relationship with autistic adults is that providers can learn about their strengths, which can often be leveraged in treatment. For example, if an autistic adult has strengths in planning and decision-making [71], the provider can encourage them to develop a schedule for how they would like to spend the appointment time or prepare a list of talking points [72•]. If an autistic adult is experiencing high levels of stress or anxiety, the provider can inquire about and encourage the autistic adult’s intense interests, which may be effective coping strategies [73]. Importantly, leveraging strengths may improve confidence [73], and is congruent with high-quality patient-centered care [74] and a neurodiversity-affirming approach to care [32].

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Provide Actionable Steps to Promote Patient Progress

Providers can facilitate autistic adults’ progress in meeting their mental health goals by providing practical recommendations and guidance for how to navigate life situations that impact their mental health. Focusing heavily on autism itself, early childhood experiences [72•], or other topics (unless directed by the patient) may not be helpful for autistic adults in their day-to-day lives. Many autistic adults have jobs, relationships, community involvements, and many other facets to their lives, all of which may affect their mental health and may need to be points of emphasis during mental health treatment. For example, if an autistic adult is struggling with social anxiety about interactions with work colleagues, it may be more helpful to talk through recent situations and identify practical strategies for managing anxiety rather than to analyze early childhood experiences that could have originated the social anxiety. We encourage providers to check-in with autistic adults regularly about their experiences with treatment, listen to their feedback, and be willing to modify treatment approaches when necessary.

Conclusions

We reviewed the published literature from the past five years on autistic adults’ use of mental healthcare and their experiences with those services. Most autistic adults use mental healthcare, and they tend to use mental healthcare more often than non-autistic adults or adults from other diagnostic groups. Yet, autistic adults frequently have unmet needs for mental healthcare. Contributing to unmet needs are barriers including the lack of healthcare providers with training in working with autistic adults, not tailoring care to meet individual needs, and the complex healthcare system. There is an urgent need for systemic and policy-level change in mental healthcare to better serve the needs of autistic adults [25, 51, 52]. Mental healthcare providers can begin immediately to better care for autistic adults by being an agent of change in the workplace, learning more about autism, using an individualized approach to provide care, leveraging autistic adults’ strengths in treatment, and providing actionable steps to improve mental health and well-being.

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References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

1. What is autism? [Internet]. The Art of Autism. 2022. Available from: https://the-art-of-autism.com/what-is-autism/.
2. American Psychiatric Association AP. Diagnostic and Statistical Manual of Mental Disorders (DSM-5®). Am Psychiat Pub. 2013.
3. Interagency Autism Coordinating Committee (IACC). 2016–2017 IACC Strategic Plan for Autism Spectrum Disorder [Internet]. 2017. Available from: https://iacc.hhs.gov/publications/strategic-plan/2017.
4. Lai M-C, Kassee C, Besney R, Bonato S, Hull L, Mandy W, et al. Prevalence of co-occurring mental health diagnoses in the autism population: a systematic review and meta-analysis. The Lancet Psychiatry. 2019;6(10):819–29. (This systematic review concludes that many common mental health diagnoses are more prevalent among autistic individuals than in the general population.)
5. Dern S, Sappok T. Barriers to healthcare for people on the autism spectrum. Advances in Autism. 2016;2:2–11.
6. Nicolaides C, Raymaker DM, Ashkenazy E, McDonald KE, Dern S, Baggs AE, et al. “Respect the way I need to communicate with you”. Healthcare experiences of adults on the autism spectrum: Autism. 2015;19(7):824–31. This foundational study elucidates multi-level barriers to healthcare commonly experienced by autistic adults.
7. Raymaker DM, McDonald KE, Ashkenazy E, Gerrity M, Baggs AM, Kriple C, et al. Barriers to healthcare: Instrument development and comparison between autistic adults and adults with and without other disabilities. Autism. 2017;21(8):972–84. This study builds upon Nicolaides and colleagues’ 2015 study and finds that autistic adults have different barriers to healthcare than non-autistic adults and adults with other developmental disabilities.
8. Interagency Autism Coordinating Committee (IACC). IACC Strategic Plan for Autism Spectrum Disorder 2018–2019. 2018;77.
9. Cassidy SA, Nicolaides C, Davies B, Rosa SDR, Eisenman D, Onaiwu MG, et al. An expert discussion on autism in the COVID-19 pandemic. Autism in Adulthood. 2020;2(2):106–17.
10. Mason D, Mackintosh J, McConachie H, Rodgers J, Finch T, Parr JR. Quality of life for older autistic people: the impact of mental health difficulties. Research in Autism Spectrum Disorders. 2019;63:13–22.
11. Hand BN, Angell AM, Harris L, Carpenter LA. Prevalence of physical and mental health conditions in Medicare-enrolled, autistic older adults. Autism. 2020;24(3):755–64. This large cross-sectional study is one of the first to examine the health status of autistic older adults and finds that they have a higher odds of both physical and mental health conditions than non-autistic older adults.
12. Rosen TE, Mazefsky CA, Vasa RA, Lerner MD. Co-occurring psychiatric conditions in autism spectrum disorder. Int Rev Psychiat. 2018;30(1):40–61.
13. Gilmore D, Krantz M, Weaver L, Hand BN. Healthcare service use patterns among autistic adults: A systematic review with narrative synthesis. Autism. 2022;26(2):317–31.
14. Camm-Crosbie L, Bradley L, Shaw R, Baron-Cohen S, Cassidy S. ‘People like me don’t get support’: Autistic adults’ experiences of support and treatment for mental health difficulties.
This study characterizes autistic adults’ experiences with mental healthcare and highlights benefits of autism-tailored care as well as recommendations for improving services for autistic adults.

15. Dudley KM, Klinger MR, Meyer A, Powell P, Klinger LG. Understanding Service Usage and Needs for Adults with ASD: The Importance of Living Situation. J Autism Dev Disord. 2019;49(2):556–68.

16. Hand BN, Coury DL, Darragh AR, White S, Moffatt-Bruce S, Harris L, et al. Patient and caregiver experiences at a specialized primary care center for autistic adults. J Comp Eff Res. 2020;9(16):1131–40.

17. Tint A, Weiss JA. A qualitative study of the service experiences of women with autism spectrum disorder. Autism. 2018;22(8):928–37.

18. Crane L, Adams F, Harper G, Welch J, Pellicano E. ‘Something needs to change’: Mental health experiences of young autistic adults in England. Autism. 2019;23(2):477–93.

19. Lugo-Marín J, Magán-Maganto M, Rivero-Santana A, Cuellar-Pompa L, Alviani M, Jenaro-Rico C, et al. Prevalence of psychiatric disorders in adults with autism spectrum disorder: a systematic review and meta-analysis. Research in Autism Spectrum Disorders. 2019;59:22–33.

20. Rong Y, Yang C-J, Jin Y, Wang Y. Prevalence of attention-deficit/hyperactivity disorder in individuals with autism spectrum disorder: a meta-analysis. Research in Autism Spectrum Disorders. 2021;83:101759.

21. Martin AF, Jassi A, Cullen AE, Broadway M, Downs J, Krebs G. Co-occurring obsessive–compulsive disorder and autism spectrum disorder in young people: Prevalence, clinical characteristics and outcomes. Eur Child Adolesc Psychiatry. 2020;29(11):1603–11.

22. Vogan V, Lake JK, Tint A, Weiss JA, Lunsy Y. Tracking health care service use and the experiences of adults with autism spectrum disorder without intellectual disability: A longitudinal study of service rates, barriers and satisfaction. Disabil Health J. 2017(2);10:264–70.

23. Höfer J, Hoffmann F, Dörks M, Kamp-Becker I, Küpper C, Pouska L, et al. Health Services Use and Costs in Individuals with Autism Spectrum Disorder in Germany: Results from a Survey in ASD Outpatient Clinics. J Autism Dev Disord. 2022;52(2):540–52.

24. Tint A, Weiss JA, Lunsy Y. Identifying the clinical needs and patterns of health service use of adolescent girls and women with autism spectrum disorder. Autism Res. 2017;10(9):1558–66.

25. Weiss JA, Issacs B, Diepstra H, Wilton AS, Brown HK, McGarry C, et al. Health concerns and health service utilization in a population cohort of young adults with autism spectrum disorder. J Autism Dev Disord. 2018;48(1):36–44.

26. Maddox BB, Kang-Yi CD, Brodkin ES, Mandell DS. Treatment utilization by adults with autism and co-occurring anxiety or depression. Res Autism Spectr Disord. 2018;51:32–7.

27. Zerbo O, Qian Y, Ray T, Sidney S, Rich S, Massolo M, et al. Health care service utilization and cost among adults with autism spectrum disorders in a U.S. integrated health care system. Autism in Adulthood. 2018;1(1):27–36. This case-control study finds that autistic adults use many healthcare services more often than adults with ADHD and non-autistic adults and have higher healthcare costs.

28. Iannuzzi D, Hall M, Oreskovic NM, Atye E, Broder-Fingert S, Perrin JM, et al. Emergency department utilization of adolescents and young adults with autism spectrum disorder. J Autism Dev Disord. 2022;52(2):617–22.

29. Nyrenius J, Eberhard J, Ghaziuddin M, Gillberg C, Billstedt E. Prevalence of autism spectrum disorders in adult outpatient psychiatry. J Autism Dev Disord. 2022;52:3769–79

30. Takara K, Kondo T. Autism spectrum disorder among first-visit depressed adult patients: diagnostic clues from backgrounds and past history. Gen Hosp Psychiatry. 2014;36(6):737–42.

31. Tormasinanas S, Yao G, Alexander R, Mukaetova-Ladinska E, Kiani R, Al-Uzmi M, et al. The prevalence of diabetes in autistic persons: a systematic review. Clin Pract Epidemiol Ment Health. 2020;16:212–25.

32. Shaw SCK, Doherty M, McCowan S, Eccles JA. Towards a neurodiversity-affirmative approach for an over-represented and under-recognised population: autistic adults in outpatient psychiatry. J Autism Dev Disord. 2022;52;4200–4201.

33. Brice S, Rodgers J, Ingham B, Mason D, Wilson C, Freeston M, et al. The importance and availability of adjustments to improve access for autistic adults who need mental and physical healthcare: findings from UK surveys. BMJ Open. 2021;11(3);e043336.

34. Kerns CM, Collier A, Lewin AB, Storch EA. Therapeutic alliance in youth with autism spectrum disorder receiving cognitive-behavioral treatment for anxiety. Autism. 2018;22(5):636–640.

35. Cresswell L, Hinch R, Cage E. The experiences of peer relationships amongst autistic adolescents: A systematic review of the qualitative evidence. Res Autism Spectr Disord. 2019;61:45–60.

36. Cheak-Zamora NC, Teti M, Maurer-Batjer A, O’Connor KV, Randolph JK. Sexual and relationship interest, knowledge, and experiences among adolescents and young adults with autism spectrum disorder. Arch Sex Behav. 2019;48(8):2605–15.

37. Maitland CA, Rhodes S, O’Hare A, Stewart ME. Social identities and mental well-being in autistic adults. Autism. 2021;25(6):1771–83.

38. Au-Yeung SK, Bradley L, Robertson AE, Shaw R, Baron-Cohen S, Cassidy S. Experience of mental health diagnosis and perceived misdiagnosis in autistic, possibly autistic and non-autistic adults. Autism. 2019;23(6):1508–18.

39. Faraone SV, Buitelaar J. Comparing the efficacy of stimulants for ADHD in children and adolescents using meta-analysis. Eur Child Adolesc Psychiatry. 2010;19(4):353–64.

40. Anderson C, Butt C. Young adults on the autism spectrum: the struggle for appropriate services. J Autism Dev Disord. 2018;48(11):3912–25.

41. Joshi G, Wilens T, Firmin ES, Hosokawa B, Biederman J. Pharmacotherapy of attention deficit/hyperactivity disorder in individuals with autism spectrum disorder: A systematic review of the literature. J Psychopharmacol. 2021;35(3):203–10.

42. McMorris CA, Barraskewich J, Ames MA, Shaikh KT, Ncube BL, Bekbo JM. Mental health issues in post-secondary students with autism spectrum disorder: experiences in accessing services. Int J Ment Health Addiction. 2019;17(3):585–95.

43. Schott W, Nonnemacher S, Shea L. Service use and unmet needs among adults with autism awaiting home- and community-based medicare services. J Autism Dev Disord. 2021;52:1188–1200.

44. Ghanouni P, Hood G, Weisbrot A, McNeil K. Utilization of health services among adults with autism spectrum disorders: Stakeholders’ experiences. Res Dev Disabil. 2021;119:104120.

45. Zheng S, Adams R, Taylor JL, Pezzimenti F, Bishop SL. Depression in independent young adults on the autism spectrum: Demographic characteristics, service use, and barriers. Autism. 2021;25(7):1960–72.

46. Oomen D, Nijhof AD, Wiersma JR. The psychological impact of the COVID-19 pandemic on adults with autism: a survey study across three countries. Molecular Autism. 2021(1);12:21.

47. White LC, Law JK, Daniels AM, Toroney J, Vernoia B, Xiao S, et al. Brief report: impact of COVID-19 on individuals with ASD and their caregivers: a perspective from the SPARK cohort. J Autism Dev Disord. 2021;51(10):3766–73.

48. Phatos M, Pisula E. Service use, unmet needs, and barriers to services among adolescents and young adults with autism spectrum disorder in Poland. BMC Health Serv Res. 2019;19(1):587.
49. Koffer Miller KH, Mathew M, Nonnemacher SL, Shea LL. Program experiences of adults with autism, their families, and providers: Findings from a focus group study. Autism. 2018;22(3):345–56.

50. George R, Stokes MA. A quantitative analysis of mental health among sexual and gender minority groups in ASD. J Autism Dev Disord. 2018;48(6):2052–63.

51. Mazurek MO, Stobbe G, Loftin R, Malow BA, Agrawal MM, Tapia M, et al. ECHO Autism Transition: Enhancing healthcare for adolescents and young adults with autism spectrum disorder. Autism. 2020;24(3):633–44.

52. Edelson SM, Nicholas DB, Stoddart KP, Bauman MB, Mawlam L, Lawson WB, et al. Strategies for research, practice, and policy for autism in later life: a report from a think tank on aging and autism. J Autism Dev Disord. 2021;51(1):382–90.

53. Cage E, Di Monaco J, Newell V. Experiences of autism acceptance and mental health in autistic adults. J Autism Dev Disord. 2018;48(2):473–84.

54. •• Bottema-Beutel K, Kapp SK, Lester JN, Sasson NJ, Hand BN. Avoiding ableist language: suggestions for autism researchers. Autism in Adulthood. 2021;3(1):18–29. This commentary communicates the negative impact of ableist language on the way that autism is discussed in research and provides non-ableist language recommendations for autism researchers.

55. Hull L, Petrides KV, Allison C, Smith F, Baron-Cohen S, Lai M-C, et al. “Putting on my best normal”: Social camouflaging in adults with autism spectrum conditions. J Autism Dev Disord. 2017;47(8):2519–34.

56. Kim SY, Bottema-Beutel K. Negotiation of individual and collective identities in the online discourse of autistic adults. Autism in Adulthood. 2019;3(1):69–78.

57. Rose K. Masking: I am not OK [Internet]. The Autistic Advocate. 2018 [cited 2022 May 18]. Available from: https://theautisticadvocate.com/201807/masking-i-am-not-ok/.

58. Brown HM, Stahmer AC, Dwyer P, Rivera S. Changing the story: How diagnosticians can support a neurodiversity perspective from the start. Autism. 2021;25(5):1171–4.

59. Alvarenga GA, Bebbington K, Cleary D, Evans K, Glasson EJ, Maybery MT, et al. The misnomer of ‘high functioning autism’: Intelligence is an imprecise predictor of functional abilities at diagnosis. Autism SAGE Publications Ltd. 2020;24(1):221–32.

60. Gardiner F. The problem with “high” and “low” functioning labels [Internet]. Thinking person’s guide to autism. 2018 [cited 2022 May 18]. Available from: https://thinkingautismguide.com/201803/fnm-gardiner.html.

61. Kapp S, Ne’eman A. ASD in DSM-5: what the research shows and recommendations for change [Internet]. Autistic Self Advocacy Network. 2012 [cited 2022 May 18]. Available from: https://autisticadvocacy.org/wp-content/uploads/2012/06/ASAN_DSM-5_2_final.pdf.

62. Kenny L, Hattersley C, Molins B, Buckley C, Povey C, Pellicano E. Which terms should be used to describe autism? Perspectives from the UK autism community. Autism. 2016;20(4):442–62.

63. Schaber A. Ask an Autistic #15 - What are Autistic Meltdowns? [Internet]. 2014 [cited 2022 May 18]. Available from: https://www.youtube.com/watch?v=FhUDyarzqXE.

64. Chavisory. We are like your child: a checklist for identifying sources of aggression [Internet]. We Are Like Your Child. 2014 [cited 2022 May 18]. Available from: http://wearelikeyourchild.blogspot.com/2014/05/a-checklist-for-identifying-sources-of.html.

65. Kapp S, Steward R, Crane L, Elliott D, Elphick C, Pellicano E, et al. ‘People should be allowed to do what they like’: autistic adults’ views and experiences of stimming. Autism. 2019;23(7):1782–92.

66. Bury SM, Jellett R, Spoor JR, Hedley D. “It defines who I am” or “It’s something I have”: What language do [autistic] Australian adults [on the autism spectrum] prefer? J Autism Dev Disord [Internet] Available from: 2020. https://doi.org/10.1007/s10803-020-04425-3.

67. Maddox BB, Gaus VL. Community mental health services for autistic adults: good news and bad news. Autism in Adulthood. 2018;1(1):15–9. This perspectives article summarizes the state of community mental healthcare for autistic adults, and highlights progress made as well as recommendations for healthcare stakeholders to improve services.

68. Hand BN, Gilmore D, Harris L, Darragh A, Hanks C, Coury D, et al. “They looked at me as a person, not just a diagnosis”: a qualitative study of patient and parent satisfaction with a specialized primary care clinic for autistic adults. Autism in Adulthood. 2021;3(4):347–55.

69. Matson JL, Hess JA. Psychotropic drug efficacy and side effects for persons with autism spectrum disorders. Res Autism Spect Disord. 2011;5(1):230–6.

70. Keefe A, White SW, Vasa RA, Reaven J. Psychosocial interventions for internalizing disorders in youth and adults with ASD. Int Rev Psychiat. 2018;30(1):62–77.

71. St. John T, Woods S, Bode T, Ritter C, Estes A. A review of executive functioning challenges and strengths in autistic adults. Clin Neuropsychol. 2022;36(5):1116–47.

72. •• Maddox BB, Crabbé S, Beidas RS, Brookman-Frazee L, Cancuss CC, Miller JS, et al. “I wouldn't know where to start”: perspectives from clinicians, agency leaders, and autistic adults on improving community mental health services for autistic adults. Autism. 2020;24(4):919–30. This multistakeholder qualitative study identifies avenues to improve community mental healthcare for autistic adults, emphasizing the need for provider training and to connect the mental health and developmental disabilities service systems.

73. Tett M, Cheak-Zamora N, Lolli B, Maurer-Batjer A. Reframing autism: young adults with autism share their strengths through photo-stories. J Pediatr Nurs. 2016;31(6):619–29.

74. Wolfe A. Institute of medicine report: crossing the quality chasm: a new health care system for the 21st century. Policy, Politics, & Nursing Practice. 2001;2(3):233–5.

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