

Considerations in the assessment and management of ADHD within the TGDNB population

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ABSTRACT

AIMS: In this article we consider current literature around Attention Deficit Hyperactivity Disorder (ADHD) in the transgender, gender diverse and non-binary (TGDNB) population.

METHODS: Literature review.

RESULTS: N/A

CONCLUSIONS: We outline specific considerations pertaining to the assessment and treatment of ADHD in this group and highlight evidential gaps and avenues for future research. We conclude that TGDNB individuals should be considered a “special population” with regards to ADHD and encourage mental health practitioners to consider specific TGDNB mental health needs beyond capacity assessments and gender-affirming care.

In this article we consider Attention Deficit Hyperactivity Disorder (ADHD) in the transgender, gender diverse and non-binary (TGDNB) population. We outline specific considerations pertaining to the assessment and treatment of ADHD in this group and highlight evidential gaps and avenues for future research. We conclude that TGDNB individuals should be considered a “special population” with regards to ADHD and encourage mental health practitioners to consider specific TGDNB mental health needs beyond capacity assessments and gender-affirming care.

Background

ADHD is a neurodevelopmental disorder with an estimated prevalence of 5–9% in children and adolescents and 3–5% for adults.¹ It is associated with difficulties with hyperactivity and/or sustaining attention, often including features of impulsivity. ADHD can negatively impact on functioning in several areas including psychological, social, educational, occupation and activities of daily living.² There is widespread recognition of the under-diagnosis of ADHD, particularly among adults, especially women.^{3,4}

The prevalence of TGDNB individuals is estimated to be up to 4.5% of adults and 8.4% of children and adolescents worldwide,⁵ with precise figures depending on a number of factors including location and age.⁶ ADHD is estimated to

be 1.72 to 7.21 times more prevalent among TGDNB individuals than in the general population.⁷ Additionally, TGDNB individuals have poorer mental health, experience more difficulties at school and are more likely to experience material poverty than the general population.^{8,9} This article considers the extent to which the under-recognition and under-treatment of ADHD in this group may contribute to these more general difficulties and poor outcomes.

ADHD diagnosis and assessment

Diagnosis of ADHD requires both symptom criteria and functional impact in multiple domains (i.e., home, work, school, social).¹⁰ In clinical practice, this is often assessed through a combination of detailed clinical history, collateral information from others and psychometric instruments such as the Conners IV or the SNAP-IV.^{1,11}

While it is often assumed psychometrics are equally applicable to all, available evidence indicates that these may under-detect ADHD among females versus males.^{3,11} Studies have not yet been conducted to ascertain applicability of ADHD psychometrics to TGDNB individuals. This is problematic both in terms of understanding whether—and how (i.e., up or down)—a threshold might need to be adjusted for those with a non-binary gender, but also in terms of whether one’s assigned gender (i.e., natal sex) or whether one’s

asserted gender (i.e., stated gender identity) should determine whether a “male” threshold or a “female” threshold for diagnosis should be used. These issues are not unique to ADHD psychometrics, and are considered in detail in Anderson et al. (2022).¹²

ADHD psychometrics require feedback from multiple responders related to the patient. However, TGDNB individuals are more likely to experience bullying and discrimination at school, and less likely to feel they are cared about by education providers.⁸ This may impact on attendance and the likelihood of remaining within a given school, and so make gaining accurate feedback from educational settings more challenging. Secondly, as TGDNB individuals are significantly more likely to be estranged from family,^{8,9} it may not be possible to gain collateral or assess developmental history. Finally, gaining a true sense of functional impact on employment may too be challenging. TGDNB individuals are more likely to experience workplace discrimination,^{8,9} which may act as a confounding factor in ADHD assessment. Furthermore, as TGDNB individuals are less likely to hold stable employment,^{8,9} it may not be possible to assess the functional impact of ADHD symptoms alone on employment. Clinicians may need to exercise additional flexibility when assessing ADHD among those with TGDNB identities, for example, by placing greater weight upon self-reported symptoms and relying correspondingly less on psychometrics and collateral history.

To compound the difficulty, reaching a specialist for ADHD assessment may be more challenging for TGDNB individuals, who are less likely to access healthcare due to a number of factors, including experiences of mistreatment or discrimination.^{8,9} TGDNB individuals experience more diagnostic overshadowing,¹³ are less likely to have easy access to a GP and are more likely to be denied or delayed in accessing healthcare.¹⁴ In the context of the so-called “mental health crisis” in many countries, it is more likely that TGDNB individuals will “fall through the cracks”. Additionally, higher rates of poverty mean private assessment is often unattainable for this population.¹⁴ Public providers should be mindful of these realities when triaging referrals; meanwhile, private providers may assist by offering sliding-scale fees or payment plans to the TGDNB population as they are encouraged to do for other marginalised groups, including Indigenous peoples.²

Finally, it is important to recognise that it may

be more challenging to differentiate ADHD from other diagnoses within the TGDNB population. Numerous conditions commonly considered differential diagnoses to ADHD have higher prevalence among the TGDNB population, including: anxiety, depression, emotional regulation difficulties and PTSD.¹⁶ These may in themselves be manifestations of minority stress.^{16,17} The impact of these psychological and social factors on TGDNBs’ ability to focus their attention may lead to the diagnosis of ADHD being applied when it is not appropriate. This creates a risk of further pathologising a minority group who are often over-medicalised, which can impact a young person’s self-esteem and locus of control when confronted with future stressors. Autistic spectrum conditions also have higher prevalence among TGDNB populations.⁷ While co-occurring syndromes should not contraindicate an ADHD diagnosis, providers should be aware of these overlaps in assessment, formulation and management planning.

Considerations in treating ADHD among TGDNB individuals

Treatment of ADHD is multifaceted and may consist of psychoeducation, psychosocial interventions and lifestyle changes, and pharmacological options. Medications are generally effective in treating more severe forms of ADHD, with psychostimulant medications considered more effective than other drugs.^{1,2,11,18}

Concurrent puberty suppression in adolescents

Appetite suppression is a common side effect of both stimulant and non-stimulant ADHD medications.¹ A reduction in adult height is also well-recognised as a side-effect of these treatments, considered related (at least in part) to the aforementioned appetite suppression.^{19,20}

For TGDNB adolescents who seek this as part of gender affirmation, guidelines recommend commencing puberty blockers (PBs) at Tanner Stage 2 to “buy time” to allow them to make a capacious decision whether to commence estrogen or testosterone gender-affirming hormone therapy (e-GAHT/t-GAHT, respectively).⁵ Concerns have been raised around the impact of prolonged PB treatment on bone-density,²¹ with debate as to whether this is due to the medications themselves or due to wider societal factors such as exclusion from sport.⁵ Regardless, inadequate

nutrition from ADHD medication-induced appetite suppression may exacerbate this issue.

Concerns might be mitigated through employing the same three-pronged approach to management of psychoeducation, psychosocial intervention, and accounting for this (non-pharmacological) interaction within prescribing.

Where a young person is being treated with PBs, patients and families should be warned around the possibility of appetite suppression further contributing to reduced bone density, as well as how this might be addressed. Standard recommendations, including eating prior to taking medications, taking medication breaks, encouraging eating and using nutritional supplements and encouraging physical activity^{1,11} are perhaps more crucial in TGDNB youth on PBs. However, providers should be aware of the lower rates of physical activity among TGDNB individuals due to concerns around discrimination and hostility.⁸ Therefore, there may be a need for providers to signpost these patients to TGDNB-inclusive (and safe) sports clubs, recreational facilities or exercise groups to reduce barriers to participation. Similarly, professional bodies supporting those with ADHD might consider releasing statements supporting TGDNB inclusion in sport to help address barriers at a societal level.

It may be beneficial for ADHD treatment providers to provide education around the relationship between eating and attainment of gender-goals. Those identifying as male may be motivated to eat by understanding the link between nutrition and maximising adult height or optimising muscle mass, while those identifying as female may be motivated by understanding the link between eating and breast growth or gynoid fat deposition. Through these discussions patients may come to consider eating as a gender-affirming intervention in itself, thus improving motivation to eat and increasing oral intake as a result. Anecdotally, the authors have seen significant benefits in routinely having this discussion in clinical practice.

It is unclear whether providers should routinely deviate from standard prescribing guidance for TGDNB individuals on PBs. Guanfacine, a second-line agent, is thought to have less impact on appetite^{1,2} than other ADHD medications, and so—in the context of a young person on concurrent PBs—may be helpful in minimising impact on bone density and (particularly in those assigned female at birth) optimising growth. However, as guanfacine is less efficacious than

stimulants in treating ADHD,¹⁸ then restricting access to stimulant medications to those on PBs may instead serve to worsen current healthcare inequality experienced by TGDNB individuals. Additionally, guanfacine is only obtainable under Section 28 in Aotearoa New Zealand, meaning it is not routinely prescribed and is less likely to be accessible to impoverished marginalised groups owing to associated costs, thus posing equity issues. More evidence is needed to understand how to best optimise ADHD management in the TGDNB population, and particularly those on PBs or undergoing GAHT. In the meantime, the authors would advocate for a patient-led and informed consent approach to agent selection when treating this group.

The role of gender-affirming hormone treatment (GAHT) optimisation

GAHT involves the blocking of natal sex steroids and artificial supplementation with sex steroids aligning with the gender-goals of a given patient. t-GAHT generally involves testosterone administration alone. Meanwhile, e-GAHT generally involves administration of an androgen-blocker and estrogen.⁵ Progesterone has not been routinely recommended as part of e-GAHT.²¹ However, more recent guidelines allow for an informed-consent approach to its inclusion based on a lack of strong evidence suggesting either benefit or harm.²²

Guidelines around GAHT dosage have often balanced optimising desired physical changes with minimising physical harm, with little to no consideration of also optimising mental health.²¹ Evidence around physical effects and harm is often extrapolated from trials on the cisgender population, and there is a distinct lack of quality evidence on the neuropsychiatric effects of GAHT on TGDNB people specifically. Those which do tend to show differences are of unknown relevance, and so lack clinical applicability.²³

Studies around other conditions in which low levels of sex-steroids are implicated have shown various cognitive and psychiatric symptoms are associated with low-hormone states, and that these can be relieved by exogenous hormone supplementation (HRT). Low testosterone states in cisgender men are associated with higher rates of depression and fatigue and lower quality of life scores, all of which are improved by testosterone supplementation.²⁴ Prescribing progesterone and/or estrogen to cisgender women with low levels has been shown to improve mood, improve

executive function²⁵ and to reduce suicidal ideation.²⁶ Progesterone monotherapy has also been shown to improve sleep in both sexes.^{27,28}

It may therefore be reasonable to consider increasing testosterone or estrogen dose to alleviate ADHD symptoms in TGDNB adults where GAHT dose is not already maximised. Similarly, given the well-established role between sleep quality, quality of life scores and ADHD symptomatology,²⁹ progesterone might have potential as a novel agent in the treatment of ADHD among TGDNB individuals on e-GAHT. Anecdotally, the authors are aware of several cases where patients have discontinued stimulant medication following starting progesterone, with these individuals reporting that symptoms had improved to a degree where stimulant medications were no longer needed. Overall, more research is needed in this area to

clarify the best evidence-based practice options.

Conclusion

While there are specific challenges in the assessment and management of ADHD in TGDNB individuals, these come alongside opportunities for new approaches to treatment and novel areas of research. We encourage providers to consider the interplay between gender-affirming medical treatments (i.e., PBs, e-GAHT, t-GAHT) and ADHD, and how both might be approached and optimised synergistically to optimise outcomes for particular patients. To this end, we recommend close collaboration with both the patient and the gender-affirming care provider. We emphasise current gaps in research pertaining to this overlap and encourage others to conduct studies in this largely unexplored area.

COMPETING INTERESTS

Nil.

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