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# **EPATH 2021**

## **YEAR IN REVIEW: CHILD AND ADOLESCENT MENTAL HEALTH**



# Published since EPATH 2019

Studies reporting changes in mental disorders and psychiatric symptoms within groups who proceed in gender affirming treatment

Studies reporting prevalence of mental disorders and psychiatric symptoms (and their correlates) among gender-referred adolescents

Studies reporting emotional and behavioural symptoms and their correlates among unselected adolescent population (school, college) samples that allow comparisons between transgender and cisgender adolescents

Studies describing self-reported emotional and behavioural symptoms and their correlates among transgender identifying youth in LGBT surveys

Communications on special topics (such as autism or ED and gender dysphoria, or impact of tr on neurodevelopment)

Reviews in order to inform various professional groups



# How does gender affirming treatment influence mental health and psychosocial functioning?

After the two well-known follow-up reports that cemented the basis for the widely accepted Dutch protocol of gender affirming care (deVries et al. 2011, 2014) among children and adolescents, there has been urgent need to produce more and more detailed evidence of the pros and possible cons of this treatment model, one important aspect being mental health and psychosocial functioning

A handful of child and adolescent gender identity services have now published their short term follow-up studies: de Lara et al 2020, Nieder et al. 2021, Kuper et al. 2020, Kaltiala et al. 2020, Pauli et al. 2020, Becker-Hebly et al. 2020, Achille et al. 2020, Brik et al. 2020, Carmichael et al. 2021

# The recent follow-up studies on gender affirmative medical interventions

Are all short term

Gender dysphoria reduces particularly with gender affirming hormones (and surgery), few regrets and high satisfaction with care

Several studies have reported reductions of psychological distress or psychiatric symptoms among adolescents from before GnRHa / GAH intervention to after, particularly after GAH, but often within non-clinical symptom range

Other studies have not shown reduction of psychiatric symptoms or not been able to demonstrate that changes were due to hormonal interventions

It has not been shown that severe psychiatric disorders would remit with hormonal interventions

deLara et al 2020, Nieder et al. 2021, Kuper et al. 2020, Kaltiala et al. 2020,  
Pauli et al. 2020, Becker-Hebly et al. 2020, Achille et al. 2020, Carmichael et al. 2021



# Mental health care utilization of transgender youth before and after affirming treatment

Identified 3754 TGD adolescents who received care for gender dysphoria before age 18, and their 6603 cisgender siblings, from families covered by a certain health insurance

Recorded their psychiatric diagnoses, mental health related health care visits and psychiatric medication before and after gender affirming interventions

TGD youth 5.4-fold more likely to have a psychiatric diagnosis, 2-3 fold increased likelihood for psychiatric treatment (suicidality 7x, mood disorders 6x, psychosis 5x)

Need for mental health care did not decrease, and psychiatric medication use increased from before to after gender affirming treatment

Hisle-Gorman et al. 2021



## ORIGINAL ARTICLE

# Consensus Parameter: Research Methodologies to Evaluate Neurodevelopmental Effects of Pubertal Suppression in Transgender Youth

Diane Chen,<sup>1-4,\*†</sup> John F. Strang,<sup>5-9,†</sup> Victoria D. Kolbuck,<sup>1</sup> Stephen M. Rosenthal,<sup>10</sup> Kim Wallen,<sup>11</sup>  
Deborah P. Waber,<sup>12,13</sup> Laurence Steinberg,<sup>14</sup> Cheryl L. Sisk,<sup>15</sup> Judith Ross,<sup>16,17</sup> Tomas Paus,<sup>18-20</sup>  
Sven C. Mueller,<sup>21,22</sup> Margaret M. McCarthy,<sup>23</sup> Paul E. Micevych,<sup>24</sup> Carol L. Martin,<sup>25</sup> Baudewijntje P.C. Kreukels,<sup>26</sup>  
Lauren Kenworthy,<sup>5-9</sup> Megan M. Herting,<sup>27,28</sup> Agneta Herlitz,<sup>29</sup> Ira R.J. Hebold Haraldsen,<sup>30</sup> Ronald Dahl,<sup>31</sup>  
Eveline A. Crone,<sup>32</sup> Gordon J. Chelune,<sup>33</sup> Sarah M. Burke,<sup>32</sup> Sheri A. Berenbaum,<sup>34,35</sup> Adriene M. Beltz,<sup>36</sup>  
Julia Bakker,<sup>37</sup> Lise Eliot,<sup>38</sup> Eric Vilain,<sup>39-41</sup> Gregory L. Wallace,<sup>42</sup> Eric E. Nelson,<sup>43,44</sup> and Robert Garofalo<sup>1,4</sup>



# Does puberty suppression risk age-appropriate neurodevelopment?

Upsurge of sex steroids in puberty bring along not only the development of primary and secondary sex characteristics but also profound neurodevelopment

Primary neurodevelopmental processes include synaptic pruning, myelination, gray matter maturation, functional connectivity, maturation of the prefrontal cortex

In functional level they are reflected in effectiveness of basic cognitive functions and, more importantly, in vastly more effective abilities to abstraction, perspective taking, integrative thinking, social cognition and social competence towards adulthood

These changes are the basis for development of mental health and functioning personality, and also yield risks to this development

Chen et al. 2020, Anacker et al. 2021



# Puberty, hormones and the brain

Puberty may be a sensitive period for brain organization, a window of opportunity

There is a possibility that suppressing sex hormone production during this period could alter neurodevelopment in complex ways that are not always beneficial and may not compensate later

The long-term effects of puberty suppression during the normative phase of pubertal development on brain development are not known.

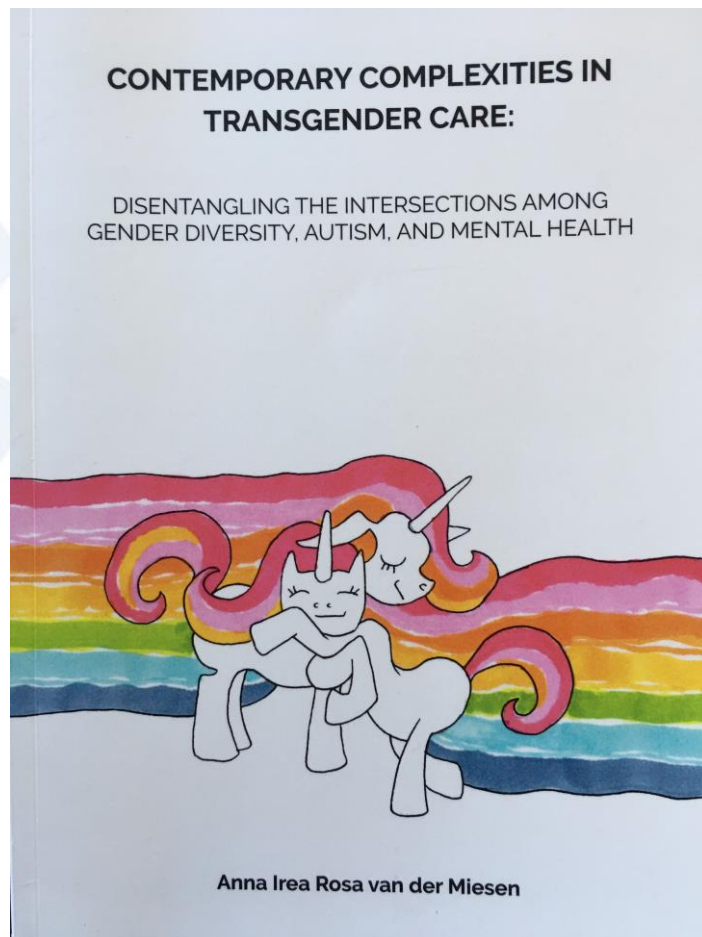
More research is urgently needed

Chen et al. 2020, Anacker et al. 2021





# Gender dysphoria and autism in children and adolescents



Confirmed the association between gender dysphoria/ gender variance and autism in various child and adolescent samples

Concluded that none of the most commonly suggested theories (selection effect; extreme male brain theory; specific subdomains of autism only) can explain the association

Not yet information about outcomes of medical interventions due to gender dysphoria in autism, or best practices of treatment of GD in autism

Van der Miesen 2021



# Identity development among adolescent trans\*people

Identity development is the main developmental task of adolescence

Identity comprises gender identity and many other aspects

An Austrian study measured comprehensive identity development / identity diffusion of 69 trans\* adolescents contacting gender identity service, with AIDA, and compared their identity development with population norms

As a whole, identity development of the trans\* group did not differ from that of same aged population

However, 36% of the trans\* group displayed identity diffusion

Haid-Stecher et al. 2020



# Need for more knowledge

Figure 1. Referrals to child and adolescent gender identity services 2010-2017 in four Nordic countries

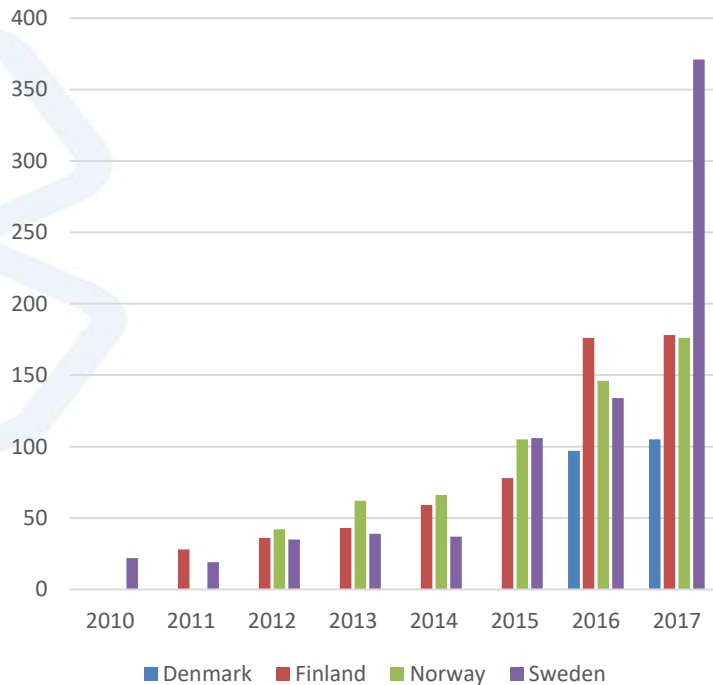
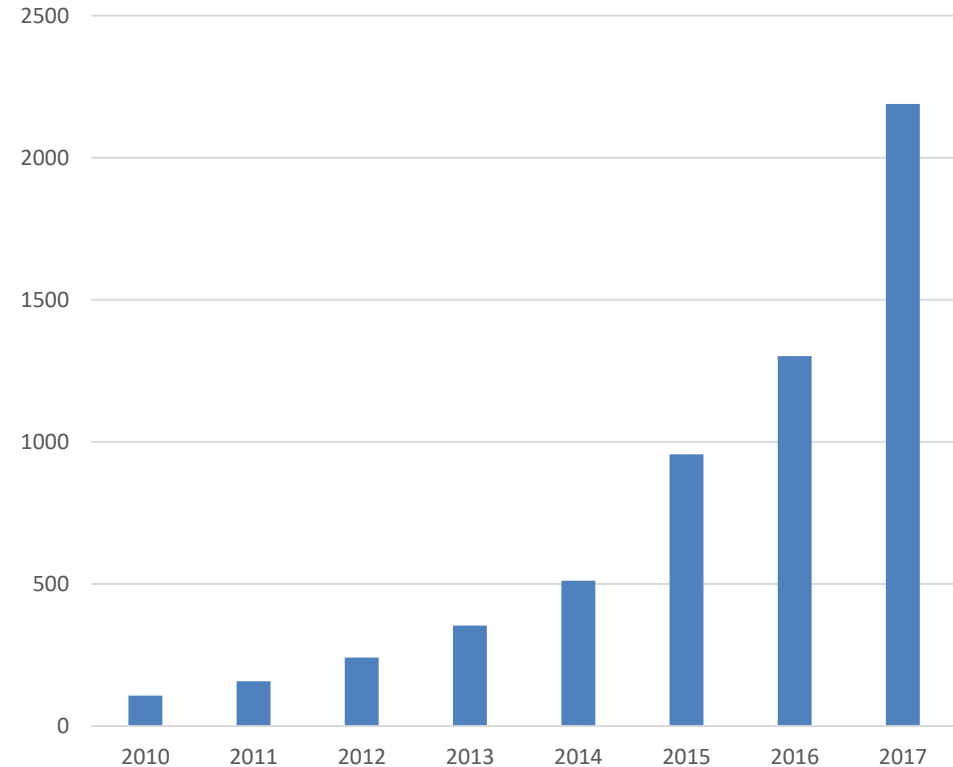


Figure 2. Referrals to child and adolescent gender identity service 2010-2017 in the UK\*



Kaltiala-Heino, Bergman, Carmichael, de Graaf, Egebjerg Rischel, Frisén, Schorkopf, Suomalainen, Wahre 2019



# Trans adolescents in the community

In community samples, transgender-identifying youth across ethnicities and cultures present more often with depression, anxiety and self-harm/ suicidality and report excessive traumatic experiences, as compared with cisgender adolescents

Some studies have also suggested an overrepresentation of various health-related and psychosocial risk behaviours among transgender identifying adolescents; however, antisocial behaviours and aggression problems not a central issue

Correlates of internalizing symptoms and disorders, if explored, are similar as among adolescents at large

Vance et al. 2021, Ross-Reed et al. 2019, Johnson et al. 2019, Rider et al. 2019, Walls et al. 2019, Eisenberg et al. 2019, Watson et al. 2020, Peng et al. 2019, Taliaferro et al. 2019, Thoma et al. 2019, Strauss et al. 2020



# Risk factors: the role of family and peer relationships

Family functioning/ adolescent-parent relationships and peer relationships are of outmost importance for adolescent development and adolescent mental health

Levitan et al. (2019) set out to study the role of poor peer relationships (YSR) and family functioning (MFAD) for emotional and behavioural problems among gender referred adolescents

Poor peer relationships, low family functioning and female birth assigned sex independently predicted increased symptoms, when family socioeconomic and gender identity related factors were controlled for

This is in line with findings from population studies focusing on risk and protective factors among trans youth, and with adolescent mental health research at large

**\*Clinical and community practices and policies should focus on promoting supportive parenting and family functioning in lives of trans youth**

Levitan et al. 2019; see also Taliaferro et al. 2019, Ross-Reed et al. 2019

# Limitations of current research

The few available clinical follow-up studies are small, have used a large variety but a narrow scope of measures, and mainly cover only short follow-up periods

Community studies are mainly cross-sectional and descriptive and share in common methodological limitations:

- cross-sectional studies cannot provide information of causal relationships
- retrospective account of past life events is vulnerable to memory biases
- analyses tend to be basic
- often selection bias that results in low generalisability of findings