

# The lifetime prevalence of psychiatric diagnoses in an academic gender reassignment service

Gerhard P. Grobler

Head of Clinical Unit: Psychiatry

Steve Biko Academic Hospital, University of Pretoria

## Abstract:

*Purpose of the review:* To review the literature regarding the prevalence of mental health concerns, including psychiatric diagnoses in the TGNC community.

*Recent findings:* Gender dysphoria is not the only mental health concern experienced by some members of TGNC people. Stigma and discrimination play a role in the development of mental health concerns. Even after reassignment surgery some members of the TGNC community is almost 5 times more likely to attempt suicide. Using a structured clinical psychiatric interview improves the likelihood of recognizing the presence of psychiatric diagnoses. Non-affirming attitudes and behavior seem to predispose to psychiatric symptoms in some members of the TGNC community and impacts on family and peer relationships. Psychiatric symptoms are often hidden for fear of further discrimination.

*Summary:* A significant proportion of the TGNC community present with mental health concerns. Clinicians should screen appropriately for these concerns. Gender affirming interventions generally have an efficacious effect.

## Key words:

transgender and gender nonconforming community, mental health concerns, psychiatric diagnoses, gender affirming interventions

## Key points:

- Gender dysphoria is not the only mental health concern members of the TGNC community face
- Stigma and discrimination play a key role in the development of mental health concerns
- The use of structured clinical psychiatric interviews are encouraged

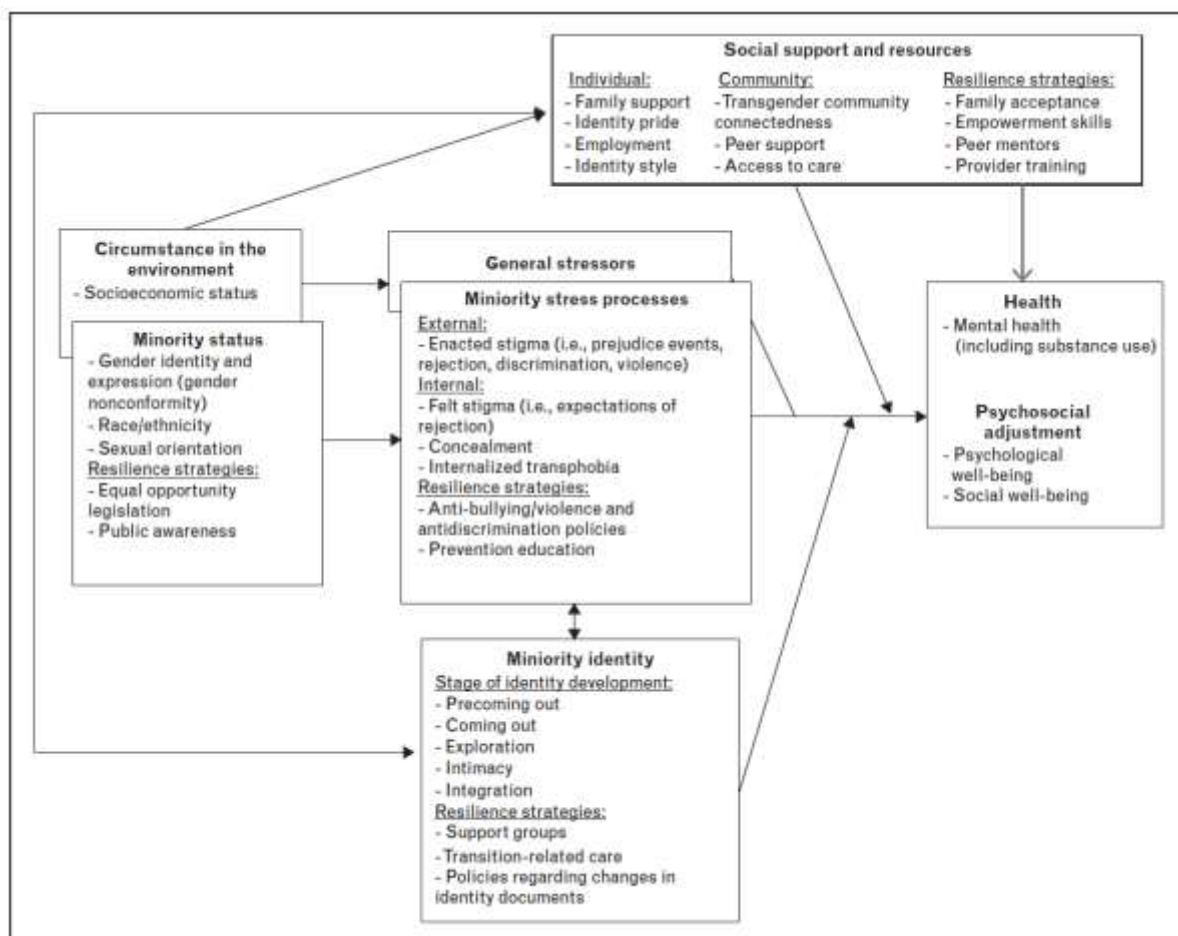
## Introduction

Transgender and gender nonconforming people (TGNC) are a diverse group of individuals whose gender self-identity is at odds with the gender they were assigned to at birth. This may or may not lead to gender dysphoria, the distress some TGNC individuals experience as a result of the incongruence between their assigned sex and their lived experience. It is reasonable to expect that some members of the TGNC community would experience mental health concerns similar to that of the general population. It is also however possible that being part of community that is stigmatized and discriminated against [1] may lead to minority stress associated with an additional burden of mental disorders [2, 3] by adding additional stress beyond general stress experienced by the general population. Gender dysphoria responds very well to treatment with satisfaction rates ranging from 87% for Male-to-female (MtF) and 97% for Female-to-Male (FtM) TGNC individuals undergoing gender reassignment and regrets are extremely rare with <1% of FtM and 1 – 1.5% of MtF individuals reporting this [4]. This is certainly also our experience at the gender

reassignment service at Steve Biko Academic Hospital in Pretoria, South Africa. We were interested in examining the lifetime prevalence of psychiatric diagnoses in an academic gender reassignment service and compare that to the most recent literature.

One could argue that gender dysphoria is related to identity development in TGNC people and from the incongruence between the 'identity' assigned to the individual by the family and social and the lived experience of the individual. Bockting and colleagues [1] described that theories of transgender identity development include typologies and stage model. Typologies differentiate TGNC individuals based on degree of cross-gender identity, gender role nonconformity, sexual orientation, or age of onset of gender dysphoria. Stage models describe a series of development tasks. Bockting and Coleman [5] described five stages of 'coming out' viz. "Pre-coming out", "Coming out", "Exploration", "Intimacy" and finally "Identity integration" and indicated how stigma may affect psychosocial identity development in each stage (fig 1). Both distal and proximal minority stress processes are at play leading to the additional stress such as verbal harassment, physical and sexual assault, housing and employment discrimination and lack of access to health care which can all negatively affect both physical and mental health.

Members of the TGNC community may often hide their psychiatric symptoms for fear of further stigmatization and discrimination.



Minority stress model and mental health

Bockting and colleagues [1] argue that quality of life include mental health, a sense of well-being, physical function, social functioning, satisfaction and happiness. They further report that the transgender community reports high rates of depression (44%), suicidal ideation (54%) and suicide attempts (31%) while the rate of excessive alcohol use (22%) and marijuana use (24%) is also high. Lastly, according to these authors transgender men reported lower quality of life than both female and male norms.

Zucker and colleagues [2] report that a review of the literature reveals a 'wide range of inconsistent, confusing, and at times seemingly contradictory results' with many studies having significant limitations. One such limitation is the reliance of brief self-report measures rather than structured interviews. Zucker *et al.* refer to two recent publications by Dhejne *et al.* [6] and Heylens *et al.* [7] who found that comorbid psychopathology is significantly more prevalent in adult with gender dysphoria than in the general population. Dhenje and colleagues reported on a longitudinal, population-based follow-up study in Sweden where all persons who underwent sex reassignment surgery between 1973 and 2003 were assessed (191 MtF and 131 FtM persons). Outcomes were assessed using the Swedish national registries containing information about births, deaths, hospital discharges and diagnoses, and criminal records. Each of the persons were compared with ten randomly selected, age-matched individuals from the registries of both the assigned and reassigned sex. Dhenje and colleagues found that, compared to 3 – 4 % of control, 19% of MtF, and 7% of FtM clients had been hospitalized for psychiatric diagnoses other than gender dysphoria. They further found that clients, after surgery were 2.8 times more likely than control to have been hospitalized for mental health concerns even after adjusting for prior psychiatric comorbidity. After the reassignment surgery transgender individuals were 4.9 times more likely to make a suicide attempt and 19.1 times more likely to die by suicide compared to controls according to these authors. Heylens and colleagues examined 305 clients with gender dysphoria (consisting of 182 MtFs and 123 FtMs) seen between 2007 and 2010 at gender clinics in Belgium, the Netherlands, Norway and Germany. Using the Mini International Neuropsychiatric Interview – Plus (MINI-P) and the Structured Clinical Interview for DSM-IV Axis I Personality Disorders, they found that approximately 38% of clients had a current Axis I psychiatric diagnosis and about 69% a lifetime Axis I disorder. These conditions had a similar prevalence among MtF and FtM clients. According to this study the most common Axis I conditions were mood disorders (27% current and 60% lifetime) and anxiety disorders as a group (17% current and 28% lifetime). Zucker *et al* also refer to nine other studies which reported generally similar results. These studies reported a 30 – 40% current prevalence of comorbid psychopathology and about 50 – 80% lifetime prevalence. It also reported the prevalence of personality disorders between 20 – 60%.

Zucker and colleagues [2] however also reported that some studies found no or little increased prevalence of associated psychopathology. Zucker *et al* commented that few of these studies, in contrast to the studies mentioned above used structured clinical interviews. Zucker *et al* concurred with Hoshiai *et al* [8] that "Studies using the structured clinical interview revealed a relatively high comorbidity rate of Axis I disorder (30 – 67%), while studies without a structured interview showed a lower comorbidity rate of Axis I disorders (4 – 19%). The possibility that the clinical diagnosis without a structured interview missed psychiatric comorbidity among GID patients cannot be denied."

In my own research done at Steve Biko Academic Hospital I've used the Structured Clinical Interview for DSM-IV Axis I Disorders, Clinical Version (SCID-I). The research project was done under the auspices of the University of Pretoria with ethical clearance by the Research Ethics committee. It was a retrospective chart review with statistical analysis of the life time prevalence rates found by the SCID-I examinations. The cohort consisted of 85 adult participants assessed between 2012 and 2016 at the gender reassignment program of Steve Biko Academic Hospital. Not all of the cohort presented with gender dysphoria. The overall prevalence of any anxiety disorder in the cohort was 25.9% with 21.2% of the sample group presenting with a life time history of a mood disorder. Substance use disorder was found in 21% of the sample while eating disorders and psychotic disorders were found in 2.3% of the sample. My research indicated that the majority of cohort did not qualify for any psychiatric diagnosis while using a structure clinical interview instrument which is at odd with the findings above.

One can ask how patients/clients enter the healthcare system if not on account of psychiatric comorbidity. Chen, Fuqua and Eugster [9] noted a sharp increase in referrals for gender dysphoria at their pediatric endocrinology clinic. The authors performed a retrospective chart review of all referral of patients with gender dysphoria in the preceding 13 years and found that 74% of those referrals occurred in only the last three years of the cohort. Their cohort consisted of 38 children (16 MtF and 22 FtM) aged 14 (+/- 3.2) years. Of the entire cohort 63% presented with a concurrent psychiatric diagnosis. Of these 31.6% presented with depression, 15.8% with attention deficit/hyperactivity disorder and autism spectrum disorder in 13.1%. Self-harm and/or suicidality occurred in 13% of the cases. The authors remarked that "(T)he remarkable increase in the number of new patients seen in our clinic over the last 3 years has occurred even though our referral base is unchanged, and our clinic has not specifically advertised its care for transgender patients. They speculated that "(T)he reason for the increase in referral is unknown. With greater media attention to lesbian/gay/bisexual/transgender/queer issues and gender-nonconforming celebrities, patients may find it easier to access information regarding transition. Greater visibility and social acceptance of being transgendered may also facilitate patients' ability to express their gender identity to friends and family."

Connolly and colleagues [10] published a review article which found that since 2011 transgender youth have higher rates of depression, self-harm, suicidality and eating disorders compared to their peers. Prior to 2011 relatively small cohort studies of convenience sampling provided limited information on the mental health of transgender youth. Clarke *et al* [11] found that, in New Zealand, transgender high school students had a significantly higher rate of depressive symptoms (41.3% v 11.8%) compared to cis-gendered students with an almost five times higher risk of attempted suicide (19.8% v 4.1%) as well as higher rates of self-harm (45.5% v 23.4%). Reisner *et al* [12] reported from Boston, USA that transgender youth more than a double risk of physician-endorsed diagnose of depression (50.6% v 20.6%) compared to age-matched controls.

Gender affirming and reassignment interventions seem to make a significant difference. de Vries and colleagues reported on the seven-year outcome of gender affirming treatment in a longitudinal cohort study which found interventions consisting of comprehensive psychological evaluation, puberty suppression with cross-sex hormone treatment and

gender reassignment surgery from age 12 led to an improvement in psychological functioning and an improvement of emotional and behavior problems over time. The authors found that such interventions “resulted in rates of clinical problems that were .... Indistinguishable from general population samples.” [13]. Similarly, Olsen et al. [14] found that transgender children who receive gender affirming interventions such as changing gender pronouns to the preferred gender, changing name as well as clothing and hair length showed rates of depression “...similar to the sibling and control group...”. Diemer and colleagues [15] examined data of 289, 024 students in the USA and found that transgender students have markedly increased rates (15.8% v 1.85%) of an eating disorder diagnosis when compared to heterosexual cis-gender women. Connolly and colleagues agreed with a previous author that “psychological functioning for these patients [transgender youth] improved with medical intervention, suggesting that “psychiatric symptoms might be secondary to a medical incongruence between mind and body, not primarily psychiatric.”. [10] This notion seems to be supported by our own findings.

A part of the minority stress experienced by members of the transgender community is the family and peer relations they enjoy. Non-affirming attitudes and behaviors as well as the expression and experience of stigma contribute to the ‘psychiatric symptoms’ discussed above and stigmatized youth often act out with behavioral or emotional responses which impacts on their family and peer relationships. de Vries and colleagues in a later study [16] found significant behavioral and emotional problems in both gender-dysphoric children and adolescents with a preponderance of internalizing problems. According to this study peer relations was the strongest predictor for behavioral (externalizing) and emotional (internalizing) problems. The authors concluded that their findings were in keeping with other studies showing that social ostracism and peer victimization were risk factors for co-occurring general psychopathology in gender non-conforming youth. This is however not the only relevant factor as maternal psychopathology and genetic predisposition may also play a role. Sasaki *et al* designed a study to examine gender and age differences in (DSM-IV defined) gender identity disorder (GID) trait scores in Japanese twins; the validity of the prenatal hormone transfer theory in opposite-gender dizygotic twins and the magnitude of genetic and environmental influences on gender identity traits as function of age and natal gender [17]. The authors examined 1,450 male twin pairs, 1,882 female twin pairs and 1,022 dizygotic male-female pairs ranging in age from 3 to 26 years. The data indicated an increase in GID traits over the developmental span with a higher number of female outpatients displaying GID traits compared to male outpatients, in contrast with most Western studies. Sasaki et al’s data did not support the prenatal hormone transfer theory which posits that a female twin sharing a womb with a male co-twin is exposed to higher levels of testosterone *in utero* and more likely display GID traits. Previous studies examine this theory yielded mixed results and Sasaki et al found that hormone transfer does not significantly contribute to gender dysphoria. The authors speculated that the effect of hormone transfer is too subtle to outweigh the influence of socialization during childhood and adolescence. These authors found, based on their data that GID traits were highly heritable among females with 84% of variance influenced by genetic factors. However among male youth shared environmental factors contributed around 70% of variance. Sasaki and colleagues found that the influence of genetic factors decreased in both genders after adolescence. The authors concluded that the familial (genetic and shared environmental) influences decreased over time during development. These findings were

echoed in a study by de Neve-Enthoven et al [18] who recommended that “(I)n addition to medical interventions individuals with DSD (disorders of sex development) and their families, particularly (parents of) individuals with atypical (small) changes in physical appearance and behavior, need comprehensive care including access to psychological counseling for reinforcement of coping abilities, self-empowerment and a wide range of information resources for both medical and psychological aspects.”. The authors found that participants in the study generally reported good psychosocial well-being without serious emotional problems, and high self-esteem.

#### Conclusion:

It seems from both the recent literature and my own research that a significant proportion of members of the TGNC community experience both internalizing and externalizing mental health problems. The causes of these problems are multi factorial with genetic, shared developmental environment as well as societal factors such as stigma and minority stress playing a role. Timely and appropriate interventions, including psychiatric treatment, psychological support and counseling, gender affirming interventions as well as medical and surgical reassignment interventions go a long way in alleviating these problems. Clinicians working within the TGNC and LGBTI community should be aware of these finding and should screen appropriately for mental health concern. Gender reaffirming interventions generally have an efficacious outcome.

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#### Conflict of interest:

The author declared no conflict of interest pertaining to this paper

#### References:

1. Bockting W, Coleman E, Deutsch MB, *et al.* Adult development and quality of life of transgender people. *Curr Opin Endocrinol Diabetes and Obes* 2016; 23:188 – 197 (\*\*)
2. Zucker KJ, Lawrence AA, Kreukels BPC. Gender Dysphoria in Adults. *Annu. Rev. Clin. Psychol* 2016; 12:217-47 (\*\*)
3. De Vries ALC, Steensma TD, Cohen-Kettenis PT, VanderLaan DP, Zucker KJ. Poor peer relations predict parent- and self-reported behavioral and emotional problems of adolescents with gender dysphoria: a cross-national, cross-clinic comparative analysis. *Eur Child Adolesc Psychiatry* 2016; 25:579-588
4. Coleman E, Bockting W, Botzer M, *et al.* Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *Intl J Transgenderism* 2012; 13:165-232.
5. Bockting W, Coleman E. Developmental stages of the transgender coming out process: toward an integrated identity. In: Ettner R, Monstrey S, Eylerd E, editors.

Principles of transgender medicine and surgery. 1 st ed. New York: The Haworth Press; 2007. Pp. 185 – 208

6. Dhejne C, Lichtenstein P, Boman M, Johansson AL, Långström N, Landén M. Long-term followup of transsexual persons undergoing sex reassignment surgery: cohort study in Sweden. PLOS ONE 2011; 6(2):e16885
7. Heylens G, Elaut F, Kreukels BP et al. Psychiatric characteristics in transsexual individuals: multicenter study in four European countries. Br. J. Psychiatry 2014; 204:151-56
8. Hoshiai M, Matsumoto Y, Sato T et al. Psychiatric comorbidity among patients with gender identity disorder. Psychiatry Clin. Neurosci. 2010; 64:514-19
9. Chen M, Fuqua J, Eugster EA. Characteristics of Referrals for Gender Dysphoria Over a 13-Year Period. J Adolesc Health 2016;58:3 69-371
10. Connolly MD, Zervos MJ, Barone CJ II, Johnson CC, Joseph CLM. The Mental Health of Transgender Youth: Advance in Understanding. Journal of Adolescent Health 2016;59: 489 – 495 (\*)
11. Clarke TC, Lucassen MFG, Bullen P, et al. The health and well-being of transgender high school students: Results from the New Zealand adolescent health survey (Youth'12). J Adolesc Health 2014; 55:93-9
12. Reisner SL, Vettters R, Leclerc M, et al. Mental health of transgender youth in care at an adolescent urban community health center: A matched retrospective cohort study. J Adolesc Health 2015; 56:274-279
13. de Vries ALC, McGuire JK, Steenma TD, et al. Young adult psychological outcome after puberty suppression and gender reassignment. Pediatrics 2014; 134:696-704
14. Olson KR, Durwood L, DeMeules M, et al. Mental health of transgender children who are supported in their identities. Pediatrics 2016; 137:1-8
15. Diemer EW, Grant JD, Munn-Chernoff MA, et al. Gender identity, sexual orientation, and eating-related pathology in a national sample of college students. J Adolesc Health 2015; 57:144-149
16. de Vries ALC, Steensma TD, Cohen-Kettenis PT, VanderLaan DP, Zucker KJ. Poor peer relations predict parent- and self-reported behavioral and emotional problems of adolescents with gender dysphoria: a cross-national, cross-clinic comparative analysis. Eur Child Adolesc Psychiatry 2016; 25:579-588
17. Sasaki S, Ozaki K, Yamagata S, et al. Genetic and Environmental Influences on Traits of Gender Identity Disorder: A Study of Japanese Twins Across Developmental Stages. Arch Sex Behav 2016; 45:1681-1695
18. de Neve-Enthoven NGM, Callens N, van Kuyk M, van Kuppenveld JH, Drop SLS, Cohen-Kettenis PT, Dessens AB. Psychosocial well-being in Dutch adults with disorders of sex development. Journal of Psychosomatic Research 2016; 83:57 - 64 (\*\*)

#### Articles of interest:

Bockting W, Coleman E, Deutsch MB, *et al.* Adult development and quality of life of transgender people. Curr Opin Endocrinol Diabetes and Obes 2016; 23:188 – 197: This excellent review examined the latest research not only on the transition process and HIV in the TGNC community but overall health and well-being of transgender and gender nonconforming adults. It highlights the deleterious effect of pervasive stigma and discrimination. Despite this, social support and affirmation may result in resilience. Quality

of life and transgender health is not limited to gender dysphoria or HIV but spans the whole life cycle in the context of their families and communities

Zucker KJ, Lawrence AA, Kreukels BPC. Gender Dysphoria in Adults. *Annu. Rev. Clin. Psychol* 2016; 12:217-47: Another comprehensive overview of the approach to adults with gender dysphoria in terms of the most recent terminology and phenomenology, epidemiology, diagnosis and assessment, comorbid psychopathology that may be present, causal mechanisms including stigma and therapeutic approaches.

de Neve-Enthoven NGM, Callens N, van Kuyk M, van Kuppenveld JH, Drop SLS, Cohen-Kettenis PT, Dessens AB. Psychosocial well-being in Dutch adults with disorders of sex development. *Journal of Psychosomatic Research* 2016; 83:57 – 64: This study under Dutch adults with disorders of sexual development (DSD) investigated the psychosocial well-being of these individuals. The authors hypothesized that psychosocial well-being was related to the degree of genital atypicality at birth but found that individuals with DSD generally reported good psychosocial well-being. Family involvement in decision making and access to a multidisciplinary team were recommended.

Connolly MD, Zervos MJ, Barone CJ II, Johnson CC, Joseph CLM. The Mental Health of Transgender Youth: Advance in Understanding. *Journal of Adolescent Health* 2016;59: 489 – 495: This paper gives an overview of the latest research (since 2011) on the mental health of transgender youth. The studies found in general that transgender youth have increased rates of depression, suicidality, self-harm and eating disorders. Data from longitudinal studies of comprehensive therapy show promising results in improving psychosocial well-being.

Corresponding author:

Dr GP Grobler

PO Box 25008, Gezina, 0031, Pretoria, Republic of South Africa

Telephone: +27 12 354 3191

Fax +27 86 6022 968

Email: [sbahpsychiatry@gmail.com](mailto:sbahpsychiatry@gmail.com)