



Factors Associated with Non-Binary Gender Identity in Psychiatric Inpatients with Suicidal Ideation Assigned Female at Birth: A Case-Control Study

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Abstract

The study aimed to investigate factors associated with non-binary gender identity in Russian female psychiatric inpatients with suicidal ideation. This case–control study included 38 female inpatients with non-binary gender identity and a control group—76 cisgender women matched for age (age range 19–35 years, M age, 21.5 years); both groups were psychiatric inpatients with suicidal thoughts. All patients underwent the Self-Injurious Thoughts and Behaviors Interview and completed the brief Reasons for Living Inventory. We also used the WHO Quality of Life Questionnaire (WHOQOL-100) and the Life Style Index (LSI). Non-binary gender identity in inpatients with suicidal ideation was associated with lower educational level, higher unemployment rate, being more socially reticent in preschool, and lifetime sexual experience with both male and female partners. In addition, they were younger at the time of the first suicidal ideation, suicide plan development, and attempt. Non-binary inpatients had lower scores in freedom, physical safety, and security facets of WHOQOL-100 and a higher level of intellectualization on LSI. People with non-binary gender identity face educational, employment, and communication issues. They also have distinct suicidal thoughts and behavioral profiles. These issues and differences mean unique approaches to suicide prevention for a population of inpatients with non-binary gender identity are needed.

Keywords Non-binary gender identity · Transgender · Non-suicidal self-injury · Suicide · Bullying

Introduction

For a long time, sex and gender were believed to be binary. However, recent studies have begun to cast doubts on the unambiguous link between them, proposing that gender

should be conceptualized in a non-dichotomous way (Cameron & Stinson, 2019). According to this approach, gender is something we achieve through interactions in our everyday lives rather than an innate characteristic (Darwin, 2017). In the study conducted by Watson et al. (2019), 26 distinct sexual and gender identities were reported, wherein the vast majority of these identities were not exclusively masculine or feminine. The term “transgender” has been introduced for persons whose gender identity does not match the sex assigned at birth. However, it is an umbrella term that covers a broad spectrum of gender identities, including those falling out of the binary system (Watson et al., 2019).

Non-binary gender identity (NBGI) does not fit into traditional binary gender categories, including such identities as pangender, multigender, bigender, gender fluid, demi-gender, and agender persons (LGBTQIA Resource Centre, 2015). According to recent nonclinical studies, atypical gender identities are not uncommon in the general population. For example, the New Zealand Adolescent Health Survey (Clark et al., 2014) found that 1.2% of high school students

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identified themselves as transgender/gender non-conforming, whereas an additional 2.5% of participants indicated they were uncertain about their gender. Furthermore, according to meta-regression analysis (Meerwijk & Sevelius, 2017), the number of transgender adults has significantly increased over the past decade, and the US transgender population has reached 390 adults per 100,000—almost 1 million adults nationally.

While atypical gender identity is neither psychopathology nor a somatic disease, these individuals have greater health needs than cisgender people (Scandurra et al., 2019; Warrier et al., 2020). For example, gender diverse people are overrepresented among clinical samples of HIV-positive and people with non-psychotic mental health disorders (NPMD), especially among those with suicidal behavior (Askevis-Leherpeux et al., 2019; Baral et al., 2013; Poteat et al., 2016; Yüksel et al., 2017). It was suggested earlier that non-heterosexual persons experience high rates of minority stress—including bullying, prejudice, and stigma, which are significant risks that could be related to suicide ideation and attempts (Meyer, 2003). This model holds true for NBGI persons (Scandurra et al., 2021).

A recent meta-analysis reported a high mean prevalence of nonsuicidal self-injury (NSSI) (28.2% (95% CI 14.8–47.1)), suicidal ideation (28% (95% CI 15–46.3)), and suicide attempts (14.8% (95% CI 7.8–26.3)) in gender non-conforming youths (Surace et al., 2020). In addition, some authors suggest that non-binary identified persons experience higher rates of anxiety and depression and could be at greater risk of adverse mental health outcomes than their binary transgender peers—both in clinical (Thorne et al., 2018) and community samples (Chumakov et al., 2021). However, overall health and well-being are more complicated as people with NBGI might have higher scores on gender congruence, body satisfaction, and psychological functioning than binary trans individuals (Jones et al., 2019a, 2019b).

Today, most studies focus on binary transgender issues, and data on non-binary transgender individuals remain relatively scarce. This approach is problematic because binary transgender experiences do not represent the full complexity of gender identities, and one could not extrapolate existing data on binary transgender persons to NBGI.

In the Russian Federation, transgender people can change their legal gender since 1997 (ILGA World, 2020). Specifically, to access gender confirmation surgery or change legal gender, one needs to be diagnosed with gender dysphoria by a psychiatrist after observation lasting from 1 month to 2 years and then pay for all the transition procedures out of their pocket. Still, there is no quick, transparent, and accessible procedure for legal gender recognition (Transgender Legal Defense Project, 2017), and no legal genders other than male and female; thus, the process is even vaguer for persons with NBGI. Moreover, Russian people with atypical

gender identity still find it more difficult to integrate into society than those who live in western European and North American countries. Omnipresent transphobia in the Russian Federation not only causes difficulties in conducting studies and collecting statistical data but also deters transgender and gender non-conforming patients from getting help—either related to transition or somatic and mental health issues (Buyantueva, 2017).

There is limited research on the mental health issues of transgender people in the Russian Federation. The only Russian study on anxiety and depressive symptoms in a transgender sample that included NBGI participants reports both higher prevalence and severity of anxiety and depressive symptoms than in binary transgender persons (Chumakov et al., 2021). There are little data on the gender identities of psychiatric inpatients, and our study aims to contribute to solving this gap. To our knowledge, no published studies have investigated factors associated with suicidal behavior in Russian patients with mental disorders and non-binary gender identity.

As both psychiatric inpatients and people with NBGI are at greater risk of suicide, we aimed to investigate factors associated with NBGI in Russian psychiatric inpatients assigned female at birth with suicidal ideation.

Method

Participants and Procedure

The case-control study included female inpatients with NBGI, aged > 17 years ($N = 38$, 23 agender and 15 bigender persons) and female cisgender controls ($N = 76$), matched in age, identified from the cohort of 481 consecutive psychiatric inpatients with suicidal thoughts from the Moscow Research and Clinical Center for Neuropsychiatry. The center only admits patients with non-psychotic mental disorders due to the “open doors” approach. All patients are self-admitted or referred by a general practitioner or other medical specialists due to psychological, psychiatric, or emotional problems unrelated primarily to gender identity. Latter was assessed after admission, and people with NBGI described their gender as a combination of male and female traits or in a way that is not part of the gender binary (Richards et al., 2016). All admitted inpatients (hence having any mental disorder) were invited to participate in the study by the treating psychiatrist and to sign an informed consent before starting. We excluded patients with severe concomitant somatic and neurological disorders ($n = 2$), substance use disorders ($n = 1$), and cognitive decline below the level of understanding self-assessment scales and the interviewer's questions ($n = 1$); we excluded a total of 4 patients. Also, three cisgender people and one NBGI person refused to participate due to unknown reasons. During

the first day of hospitalization, experienced psychiatrists examined all the participants and provided the mental disorder diagnosis according to the ICD-10 criteria. Psychiatrists were cisgender, had more than 10 years of practice (including work with LBGTQ+ persons), and considered any NBGI part of normal diversity. All patients were diagnosed with one or more of the following disorders: schizotypal disorder (F21), bipolar disorder (F31), unipolar depression (F32/33), anxiety disorders (F40/F41), obsessive–compulsive disorder (F42), eating disorders (F50), and personality disorders (F60/F61). Participants' demographic, clinical, and behavioral features were collected on the first day of admission through direct interviews and registered in the case record forms (CRF, see Supplementary Appendix 1) designed ad hoc. During the first 3 days of hospitalization, all participants underwent the Self-Injurious Thoughts and Behaviors Interview (SITBI) and completed the brief Reasons for Living Inventory (bRFL), the WHO Quality of Life questionnaire (WHOQOL-100), and the Life Style Index (LSI).

Measures

The Self-Injurious Thoughts and Behavior Interview (SITBI) is a 169-item structured interview to evaluate the presence, frequency, and characteristics of suicide and self-injurious thoughts and behaviors (Nock et al., 2007). A standard backward and forward translation procedure of the original version of SITBI was used to generate the Russian language version of the interview. The final version of the tool is used in Russia both in clinical practice and research settings (Zinchuk et al., 2020), and the study on its psychometric properties is currently in preparation by the mentioned authors.

Brief Reasons for Living inventory (bRFL) is a 12-item self-report instrument intended to evaluate adaptive beliefs and expectations for living (Ivanoff et al., 1994). The Russian language version of the bRFL was extracted from the Russian version of the 48-item Reasons for Living inventory. This version was forward-back translated by Chistopol'skaya et al. (2017) concerning relevant guidelines for the translation of psychometric instruments and validated on the clinical sample of psychiatric inpatients (Pashnin et al., 2022). The brief version of the tool replicated the original English and German versions of the bRFL (Kustov et al., 2021), with higher scores in bRFL reflecting better coping strategies helping to reduce suicide risk.

The World Health Organization Quality of Life Group (WHOQOL-100) questionnaire is a 100-item self-administered inventory to assess different aspects of the quality of life (The WHOQOL GROUP, 1998). The questionnaire evaluates 24 facets grouped into six domains: Physical, Psychological, Level of Independence, Social Relationships, Environment, and Spirituality. It also evaluates the overall quality of life and perception of life. The Russian version of

the WHOQOL-100 proved to be a reliable and valid tool for patients with mental disorders (Burkovskiy, 1998). Higher scores in WHOQoL-100 reflected a better quality of life.

The Life Style Index (LSI) is a 97-item self-report questionnaire to assess eight ego defense mechanisms: compensation, denial, displacement, intellectualization, projection, reaction formation, regression, and repression (Plutchik & Conte, 1989). The Russian version of LSI has gone through all the necessary steps of psychometric evaluation and established itself as a reliable tool for evaluating ego defense mechanisms (Vasserman et al., 2005). Higher rates on LSI subscales reflect a degree of the defense mechanisms' tension.

Statistical Analysis

Categorical values are presented as numbers and percentages, while continuous variables as mean and standard deviation (SD). We used the Mann–Whitney U-test to compare quantitative variables and Pearson's chi-square (χ^2) for categorical variables.

The study was approved by the local ethics committee of the Moscow Research and Clinical Center for Neuropsychiatry. Trained psychiatrists obtained written informed consent from all the patients who participated in the study.

Results

Demographics

The mean age of the whole sample was 21.5 (3.5) years, with an age range of 19–35 years. Inpatients with NBGI had a lower educational level ($p=0.005$) and worse occupational status ($p=0.018$). There were no differences between the two groups on employment and marital status (Table 1). No patients had any history of gender-affirming medical interventions.

According to personal history analysis, inpatients with NBGI were more socially reticent in preschool ($\chi^2=13.52$, $p<0.001$) and were bullied at school more often ($\chi^2=7.20$, $p=0.007$) than their cisgender peers. In addition, NBGI inpatients had more frequent sexual experiences with both male and female assigned at birth partners ($\chi^2=10.16$, $p=0.001$). Family history of mental condition and suicidality, traumatic experience, and past or current psychiatric diagnosis did not differ statistically between the groups (Table 1).

Suicidal Thoughts and Behavior

In the whole sample, a significant number of inpatients had a lifetime history of suicide plan development ($n=73$; 64%), suicide attempt ($n=55$; 48.2%), and NSSI ($n=91$; 79.8%), but no difference between the groups was found. Meanwhile,

Table 1 Demographic and clinical characteristics of cases and controls

	Mean (SD)/N (%)		<i>p</i> -value
	NBGI (<i>N</i> =38)	Cisgender (<i>N</i> =76)	
Age	21.6 (3.52)		
Educational level			
Elementary and middle school	6 (15.8)	1 (1.3)	<i>p</i> =0.005 ^a
High school	9 (23.7)	10 (13.2)	
College	7 (18.4)	9 (11.8)	
Higher education unfinished	12 (31.6)	41 (53.9)	
Higher education completed	4 (10.5)	15 (19.7)	
Occupation status			
Specialist	5 (13.2)	21 (27.6)	<i>p</i> =0.01 ^a
Technical personnel	15 (39.5)	11 (14.5)	
Student	16 (42.1)	35 (46.1)	
No occupation	2 (5.3)	9 (11.8)	
Source of income			
Salary	15 (39.5)	31 (40.8)	<i>p</i> =0.48 ^a
Family support	22 (57.9)	45 (59.2)	
Retirement benefit	1 (2.6)	0 (0)	
Employment			
Employed	18 (47.4)	36 (47.4)	<i>p</i> =0.49 ^a
Retired	1 (2.6)	0 (0)	
Unemployed	19 (50)	40 (52.6)	
Marital status			
Single	18 (47.4)	47 (61.8)	<i>p</i> =0.33 ^a
Married	2 (5.3)	4 (5.3)	
Other relationship	18 (47.4)	25 (32.9)	
Schizophrenia spectrum disorder	15 (39.5)	19 (25)	$\chi^2=2.54, p=0.11^b$
Bipolar disorder	8 (21.1)	24 (31.6)	$\chi^2=1.39, p=0.23^b$
Depressive disorder	7 (18.4)	11 (14.5)	$\chi^2=0.29, p=0.58^b$
Anxiety disorder	0 (0)	4 (5.3)	<i>p</i> =0.29 ^a
Obsessive–compulsive disorder	0 (0)	1 (1.3)	<i>p</i> =1 ^a
Eating disorders	0 (0)	4 (5.3)	<i>p</i> =0.29 ^a
Lifetime eating disorder	20 (52.6)	37 (48.7)	$\chi^2=0.16, p=0.69^b$
Personality disorder	13 (34.2)	23 (30.3)	$\chi^2=0.18, p=0.66^b$
Multiple psychiatric diagnoses	5 (13.2)	10 (13.2)	<i>p</i> =1 ^a
Incomplete parental family	24 (63.2)	36 (47.4)	$\chi^2=2.53, p=0.11^b$
Family history of mental illness	18 (47.4)	36 (47.4)	$\chi^2=0, p=1^b$
Family history of suicidal behavior	8 (21.1)	23 (30.3)	$\chi^2=1.09, p=0.29^b$
Family history of NSSI	5 (13.2)	7 (9.2)	<i>p</i> =0.53 ^a
Perceived parenting style			
Satisfied	6 (15.8)	20 (26.3)	$\chi^2=1.59, p=0.20^b$
Dissatisfied	32 (84.2)	56 (73.7)	
Physical violence history	26 (68.4)	51 (67.1)	$\chi^2=0.02, p=0.88^b$
Domestic violence witnessing	20 (52.6)	31 (40.8)	$\chi^2=1.44, p=0.23^b$
Poor social and communication skills in preschool age	21 (55.3)	16 (21.1)	$\chi^2=13.52, p<0.001^b$
School bullying	36 (94.7)	56 (73.7)	$\chi^2=7.21, p=0.007^b$
Lifetime relationship experience	36 (94.7)	60 (78.9)	$\chi^2=4.75, p=0.02^b$
Children	1 (2.6)	4 (5.3)	$\chi^2=0.41, p=0.51^b$
Lifetime sexual experience	30 (78.9)	58 (76.3)	$\chi^2=0.21, p=0.64^b$
Age of sexual initiation (years)	16.4 (2.2)	17.01 (2.1)	<i>U</i> =674, <i>p</i> =0.09 ^c

Table 1 (continued)

	Mean (SD)/N (%)		<i>p</i> -value
	NBGI (<i>N</i> = 38)	Cisgender (<i>N</i> = 76)	
Total number of sexual partners			
< 5	15 (39.5)	39 (51.3)	<i>p</i> = 0.17 ^a
6–10	5 (13.2)	8 (10.5)	
> 10	10 (26.3)	10 (13.2)	
Number of one-night standpartners			
< 5	27 (71.1)	53 (69.7)	<i>p</i> = 0.41 ^a
6–10	0 (0)	2 (2.6)	
> 10	3 (7.9%)	2 (2.6)	
Number of unprotected contacts with unfamiliar partners			
< 5	28 (73.7)	53 (69.7)	<i>p</i> = 1 ^a
6–10	1 (2.6)	1 (1.3)	
> 10	1 (2.6)	3 (3.9)	
Sexual experience with both sexes	19 (50%)	16 (21.1%)	$\chi^2 = 10.16, p = 0.001^b$
Group sex experience	9 (23.7)	11 (14.5)	$\chi^2 = 1.27, p = 0.25^b$
Sexual abuse history	17 (44.7)	33 (28.9)	$\chi^2 = 2.81, p = 0.09^b$
Age at first sexual abuse episode	13.29 (4.7)	15.18 (3.65)	<i>U</i> = 148, <i>p</i> = 0.26 ^c
Criminal record	4 (10.5)	13 (17.1)	$\chi^2 = 0.86, p = 0.35^b$
Lifetime drug use experience	20 (52.6%)	38 (50)	$\chi^2 = 0.07, p = 0.79^b$
Drug-free period			
< 12 month	9 (23.7)	18 (23.3)	$\chi^2 = 0.03, p = 0.86^b$
> 12 month	11 (28.9)	20 (26.3)	
Lifetime smoker	26 (68.4)	41 (53.9)	$\chi^2 = 2.19, p = 0.13^b$
Age at onset of eating disorder	16.25 (3.79)	15.97 (2.69)	<i>U</i> = 353, <i>p</i> = 0.76 ^c
Piercing	20 (52.6)	32 (42.1)	$\chi^2 = 1.13, p = 0.28^b$
Tattoos	15 (39.5)	32 (42.1)	$\chi^2 = 0.07, p = 0.78^b$
Scars cover-up tattoos	5 (13.2)	4 (5.3)	$\chi^2 = 2.17, p = 0.14^b$
Severe body modifications	6 (15.8)	10 (13.2)	$\chi^2 = 0.14, p = 0.70^b$
Age at first contact with psychiatric services (years)	18.34 (4.69)	19.61 (4.46)	<i>U</i> = 1189, <i>p</i> = 0.12 ^c

^aFisher's exact test; ^bChi-square test; ^cMann–Whitney U test, mean ± SD; NBGI—non-binary gender identity

NBGI inpatients were younger than controls at the time of the first suicidal ideation ($p = 0.013$), suicide plan development ($p = 0.005$), and suicide attempt ($p = 0.003$) (Table 2). In line with an overall similar suicidality profile, we found no differences between cases and controls on the reasons for living (based on the bRFL, all: $p > 0.05$) (Table 3).

Quality of Life and Lifestyle

NBGI inpatients had substantially lower scores in freedom, physical safety, and security facets of WHOQOL-100 ($p = 0.05$). Inpatients with NBGI tended to present lower scores of positive fillings facet ($p = 0.057$) and environment facet ($p = 0.051$). There were no significant differences between the two groups regarding other categories of WHOQOL-100 (Table 4).

Regression and projection were the two most common defense mechanisms in both groups. A higher level of intellectualization z ($p = 0.01$) in NBGI inpatients was the only difference between the two groups on LSI (Table 5).

Discussion

In our study, we did not find significant differences between NBGI persons and cisgenders regarding most of the characteristics of self-injurious thoughts and behaviors except for a younger age of onset of suicidal thoughts, the development of a suicide plan, and the first suicide attempt among non-binary persons.

The risk of suicidal ideation and behavior in people with atypical gender identities is higher than in the general and non-heterosexual populations (Marshall et al., 2015; Surace et al., 2020). Previous studies reported a higher risk of

Table 2 Patients' scores on Self-Injurious Thoughts and Behaviors Interview

	Mean (SD)/N (%)		P-value
	NBGI (N=38)	Cisgender (N=76)	
Age at onset of suicide ideation (years)	12.76 (3.72)	14.69 (3.5)	$U = 1032, P = 0.013^a$
Lifetime suicidal plan	24 (63.2)	49 (64.5)	$\chi^2 = 0.19, P = 0.89^b$
Age at first suicide plan (years)	14.45 (2.87)	17.1 (4.45)	$U = 352, P = 0.005^a$
Lifetime suicide gestures	16 (42.1)	19 (25)	$\chi^2 = 3.48, P = 0.062^b$
Age at first suicide gesture (years)	14.75 (2.59)	16.47 (5.43)	$U = 116, P = 0.22^a$
Lifetime suicide attempts	18 (47.4)	37 (48.7)	$\chi^2 = 0.18, P = 0.8^b$
Age at first suicide attempt (years)	15.27 (3.1)	18.21 (3.04)	$U = 170, P = 0.003^a$
Number of suicide attempts	4.27 (3.1)	2.83 (2.8)	$U = 245, P = 0.09^a$
Lifetime thoughts of nonsuicidal self-injury (NSSI)	34 (89.5)	59 (77.6)	$\chi^2 = 2.36, P = 0.12^b$
Age at onset of thoughts of NSSI (years)	14.08 (3.67)	13.61 (3.57)	$U = 958, P = 0.71^a$
Lifetime nonsuicidal self-injury (NSSI)	34 (89.5)	57 (75)	$\chi^2 = 3.29, P = 0.069^b$
Age at first NSSI (years)	14.7 (3.68)	14.03 (3.57)	$U = 854, P = 0.34^a$
Total number of NSSI			
< 5	4 (10.5)	9 (11.8)	$P = 0.99^c$
5–10	6 (15.8)	9 (11.8)	
11–20	3 (7.9)	6 (7.9)	
21–50	7 (18.4)	11 (14.5)	
> 50	14 (36.8)	22 (28.9)	
Lifetime medical treatment for harm caused by NSSI	7 (20.9)	8 (14.3)	$\chi^2 = 0.66, P = 0.41^b$
Number of NSSI methods	3.8 (1.89)	3.34 (2.13)	$U = 1326, P = 0.44^a$

^aMann–Whitney U test; ^bChi-square test; ^cFisher's exact test; NBGI—non-binary gender identity; NSSI—nonsuicidal self-injury

Table 3 Patients' scores on Brief Reasons for Living Inventory

	Mean (SD)		p-value
	NBGI (N=38)	Cisgender (N=76)	
Survival and coping believes*	3.71 (1.46)	3.83 (1.46)	$U = 1366, P = 0.632^a$
Responsibility to family*	3.29 (1.54)	3.55 (1.58)	$U = 1317, P = 0.437^a$
Child-related concerns*	2.21 (1.74)	2.76 (1.75)	$U = 1150, P = 0.064^a$
Fear of suicide*	3.00 (1.59)	3.33 (1.65)	$U = 1279, P = 0.312^a$
Fear of social disapproval*	2.24 (1.56)	2.01 (1.39)	$U = 1325, P = 0.433^a$
Moral objection*	2.00 (1.41)	1.87 (1.24)	$U = 1391, P = 0.723^a$

*Absolute range—1–6; ^aMann–Whitney U test; NBGI—non-binary gender identity

suicidal thoughts and attempts in people with NBGI compared to cisgender controls (Aparicio-García et al., 2018; Horwitz et al., 2020), but the data on the difference between NBGI and binary transgender people are contradictory, with reports on a higher, (Aparicio-García et al., 2018) a lower (Warren et al., 2016), and the same (Horwitz et al., 2020) prevalence.

A recent study from the Russian Federation reported a high prevalence of lifetime NSSI in psychiatric inpatients and suicidal ideation (Zinchuk et al., 2020). According to a recent meta-analysis (Liu et al., 2019), the life-time prevalence of the NSSI in transgender populations in transgender populations is 46.65%, which exceeds that of both people with atypical sexual orientation (29.68%) and cisgender persons

(14.57%). Studies on the prevalence of NSSI among people with NBGI are sporadic but show both high and equal prevalence of NSSI (60.7%–77%) compared to binary transgender people (Clark et al., 2018; Rimes et al., 2017; Veale et al., 2017). In our clinical sample, the effect (if one exists) of gender identity on suicidal plans prevalence could be masked by overall psychopathology—personality disorders and depression could have a more substantial impact on self-injurious thoughts and behaviors.

Inpatients with NBGI were younger at the onset of suicidal thoughts, developing a suicide plan, and attempting suicide for the first time. One hypothesis is that the earlier onset of suicidality in people with NBGI is probably related to the higher prevalence of bullying in childhood and adolescence.

Table 4 Patients' scores on the World Health Organization Quality of Life—100

	Mean (SD)		<i>p</i> -value
	Cisgender (<i>N</i> = 76)	NBGI (<i>N</i> = 38)	
Physical Health*	10.05 (3.08)	9.78 (1.87)	<i>U</i> = 1423, <i>p</i> = 0.897^a
Pain and discomfort [#]	12.45 (4.04)	11.82 (3.39)	<i>U</i> = 1306, <i>p</i> = 0.403 ^a
Energy and fatigue [#]	7.57 (3.15)	6.37 (1.82)	<i>U</i> = 1188, <i>p</i> = 0.120 ^a
Sleep and rest [#]	10.16 (4.54)	11.16 (4.15)	<i>U</i> = 1222, <i>p</i> = 0.181 ^a
Psychological[#]	8.69 (2.58)	8.19 (2.34)	<i>U</i> = 1288, <i>p</i> = 0.347^a
Positive feelings [#]	8.46 (3.83)	7.03 (3.04)	<i>U</i> = 1130, <i>p</i> = 0.057 ^a
Thinking, learning, memory, and concentration [#]	9.86 (3.34)	9.24 (2.34)	<i>U</i> = 1311, <i>p</i> = 0.420 ^a
Self-esteem [#]	8.12 (3.57)	7.66 (3.26)	<i>U</i> = 1368, <i>p</i> = 0.645 ^a
Bodily image and appearance [#]	10.18 (4.34)	10.32 (4.58)	<i>U</i> = 1403, <i>p</i> = 0.802 ^a
Negative feelings [#]	7.08 (2.88)	6.45 (2.47)	<i>U</i> = 1258, <i>p</i> = 0.258 ^a
Level of Independence[§]	11.79 (3.36)	10.77 (2.65)	<i>U</i> = 1201, <i>p</i> = 0.143^a
Mobility [#]	14.95 (4.25)	13.58 (4.35)	<i>U</i> = 1178, <i>p</i> = 0.107 ^a
Activities of daily living [#]	10.91 (3.79)	9.58 (3.01)	<i>U</i> = 1194, <i>p</i> = 0.131 ^a
Dependence on medicinal substances and medical aids [#]	11.03 (4.95)	10.47 (3.92)	<i>U</i> = 1357, <i>p</i> = 0.598 ^a
Work capacity [#]	10.32 (4.75)	9.74 (4.40)	<i>U</i> = 1368, <i>p</i> = 0.647 ^a
Social Relation[#]	11.35 (2.91)	10.53 (2.54)	<i>U</i> = 1239, <i>p</i> = 0.216^a
Personal relationships [#]	10.53 (3.49)	9.74 (2.74)	<i>U</i> = 1169, <i>p</i> = 0.096 ^a
Social support [#]	12.49 (3.97)	12.18 (3.72)	<i>U</i> = 1376, <i>p</i> = 0.679 ^a
Sexual activity [#]	11.05 (4.92)	10.53 (4.34)	<i>U</i> = 1375, <i>p</i> = 0.675 ^a
Environment[#]	12.67 (2.03)	11.73 (2.18)	<i>U</i> = 1120, <i>p</i> = 0.051^a
Freedom, physical safety, and security [#]	12.28 (3.76)	10.76 (3.73)	<i>U</i> = 1120, <i>p</i> = 0.050 ^a
Home environment [#]	13.72 (4.22)	12.66 (4.60)	<i>U</i> = 1259, <i>p</i> = 0.263 ^a
Financial resources [#]	9.72 (3.62)	9.08 (3.55)	<i>U</i> = 1311, <i>p</i> = 0.420 ^a
Health and social care: accessibility and quality [#]	12.55 (3.70)	12.55 (3.59)	<i>U</i> = 1390, <i>p</i> = 0.742 ^a
Opportunities for acquiring new information and skills [#]	15.57 (2.97)	15.16 (2.93)	<i>U</i> = 1303, <i>p</i> = 0.392 ^a
Participation in and opportunities for recreation/leisure [#]	10.61 (3.70)	9.66 (3.28)	<i>U</i> = 1234, <i>p</i> = 0.205 ^a
Physical environment (pollution/noise/traffic/climate) [#]	12.30 (2.80)	11.42 (3.66)	<i>U</i> = 1220, <i>p</i> = 0.176 ^a
Transport [#]	14.62 (3.22)	13.68 (3.37)	<i>U</i> = 1213, <i>p</i> = 0.162 ^a
Spirituality/Religion/Personal beliefs[#]	10.64 (4.14)	10.39 (4.26)	<i>U</i> = 1401, <i>p</i> = 0.793^a
Quality of life—total ^{&}	65.26 (12.85)	60.51 (13.25)	<i>U</i> = 1285, <i>p</i> = 0.338 ^a
Perception of life [@]	9.97 (3.18)	9.03 (3.40)	<i>U</i> = 1229, <i>p</i> = 0.194 ^a

*Absolute range—3–9.6; [#]absolute range—5–25; [§]absolute range—8.5–18.5; [&]absolute range—29.5–112.7; [@]absolute range—5–20; ^aMann–Whitney U test; NBGI—non-binary gender identity

Table 5 Patients' scores on the Life Style Index

	Mean (SD)		<i>p</i> -value
	NBGI (<i>N</i> = 38)	Cisgender (<i>N</i> = 76)	
Denial*	3.68 (1.61)	3.42 (1.82)	<i>U</i> = 1278, <i>p</i> = 0.308 ^a
Repression [#]	5.42 (2.57)	4.61 (2.07)	<i>U</i> = 1167, <i>p</i> = 0.093 ^a
Regression [§]	8.82 (2.57)	8.97 (2.57)	<i>U</i> = 1367, <i>p</i> = 0.639 ^a
Compensation ^{&}	5.42 (2.16)	4.54 (2.24)	<i>U</i> = 1130, <i>p</i> = 0.057 ^a
Projection*	8.68 (2.95)	8.71 (2.72)	<i>U</i> = 1431, <i>p</i> = 0.937 ^a
Displacement*	6.92 (2.46)	6.84 (2.59)	<i>U</i> = 1427, <i>p</i> = 0.916 ^a
Intellectualization [#]	6.42 (2.52)	5.32 (1.82)	<i>U</i> = 1041, <i>p</i> = 0.014 ^a
Reaction formation ^{&}	3.34 (2.14)	3.01 (1.92)	<i>U</i> = 1336, <i>p</i> = 0.509 ^a

*Absolute range—0–13; [#]absolute range—0–12; [§]absolute range—0–14; [&]absolute range—0–10; ^aMann–Whitney U test; NBGI—non-binary gender identity

This is consistent with previous data on binary transgender people (Clark et al., 2014; Hatchel & Marx, 2018; Kosciw et al., 2012) and on people with NBGI, for which an increased prevalence of polyvictimization was found (Sterzing et al., 2017). The 2015 National School Climate Survey in the US showed that almost 50% of students with NBGI had faced verbal harassment related to their gender expression, and 15% of them have been physically abused at least once for the same reason. School bullying in post-Soviet countries remains a pressing challenge. According to the WHO report, up to 27% of Russian children face bullying at school regularly (WHO, 2013). School bullying remains a pressing challenge worldwide, and 97% of Russian transgender students face bullying from their peers and 53%—from their teachers (Ushkova & Kireev, 2017).

School bullying based on sexual orientation and gender identity perceptions may have negative long-term consequences affecting social, psychological, and physical well-being (A. Jones et al., 2017). Several studies have shown that school bullying leads to the fear of going to school, difficulties in concentration during classes, and lower academic performance (Espelage et al., 2013; Fry et al., 2018; UNESCO, 2017). Low educational levels in NBGI inpatients may also result from a bullying experience. The 2017 National School Climate Survey (Kosciw et al., 2018) results indicate that almost 70% of students with NBGI skip classes due to the fear of discrimination regarding their sexual orientation or gender identity, resulting in lower academic performance. Our data on lower occupational status among NBGI inpatients are consistent with previous reports on the association between high victimization and a lower probability of post-secondary education (Kosciw et al., 2015). Hence, the problem that is prominent even in cisgender women is even worse in NBGI females. In addition, in many countries, including Russia, female biological sex remains a risk factor for workplace victimization (Difazio et al., 2018).

Participants with NBGI were more socially reticent in the preschool period than cisgender controls. This finding aligns with the reportedly high risk of being alienated and bullied from early childhood by peers for children who do not gain social communication skills (Jenkins et al., 2017).

Non-heterosexual orientation is another common reason for discrimination against NBGI people (Kosciw et al., 2015). In our study, 50% of NBGI inpatients have had sexual partners of both sexes. Most inpatients with NBGI reported that they preferred to have a relationship with another non-binary person. This supports the idea that a classic approach for determining one's sexual orientation is unsuitable for NBGI persons. For example, the most common tool used in Russia to evaluate sexual orientation is Klein Sexual Orientation Grid, which is binary oriented.

In our sample, the quality of life did not differ substantially between the groups, except for the environment

domain (borderline statistical significance). However, at the level of the facets, a lower score in the «freedom, physical safety and security» facet could be a result of bullying and negative attitude toward the LGBT+ (Lesbian, Gay, Bisexual, and Transgender and related communities) community and stands for the impairment in the environment domain, in line with other findings from the Belgium study (Motmans et al., 2012). In the same study, transgender men (compared to women) had poorer quality of life related to mental health compared to men from the general population. However, the findings in other cultural contexts could differ substantially. For example, Valashany and Janghorbani (2018) reported a significantly worse quality of life for transgender people living in Iran (Valashany & Janghorbani, 2018). Further transcultural studies on a larger population are required to test this hypothesis.

Participants from both groups relied mainly on immature defenses (especially projection and regression) to deal with emotional stress. Several studies on people with mental disorders have reported an association of immature defense mechanisms with many unfavorable outcomes, including suicidal behavior (Brody & Carson, 2011; Corruble et al., 2004). Unfortunately, the data on the defense mechanisms of people with atypical gender identity are scarce (Lobato et al., 2009) and come predominantly from studies done on candidates for gender confirmation surgery (Prunas et al., 2014), which prevents us from drawing any significant conclusions.

Studies on reasons for living in patients with atypical gender are scarce. Moody and Smith (2013) stated that there is a «significant relationship between some factors typically found to protect cis individuals from suicidal behavior and trans individuals' suicidal behavior», but 86.5% of the participants in that study identified themselves as FTM (female to male) and MTF (male to female). In previous studies, the 48-item version of RFL was used. We used the brief version of RFL in our study because its structurally similar to the original version and has fewer questions—12. According to our knowledge, the short version of RFL was never used before in studies in non-heterosexual and transgender populations. We found no significant differences in reasons for living between the groups.

Creating a supportive school climate for sexual and gender minority youth has reduced suicide risk (Hatzenbuehler et al., 2014). The association of NBGI and the level of bullying in our sample support this approach. However, most studies represent nonclinical samples. Our data on specific defense mechanisms and reasons for living could tailor and guide new approaches to reduce suicidal risk or primarily prevent suicide (for example, in the framework of cognitive-behavioral methods) and increase the quality of life specifically for psychiatric inpatients with NBGI. Moreover, interventions directed at mental health professionals and the community

should be promoted to fight against the stigmatization and social isolation of these persons.

Strengths and Limitations

The study contributes to a better understanding of the distinguishing features of NBGI people with mental disorders and suicidal ideation. Our study is the first in Russia to address the problem of suicidal behavior in psychiatric inpatients with NBGI. However, our findings align with similar surveys in other countries. Since we used several tools validated in many countries and the full version of our questionnaire is available to readers (see Appendix), our research methodology can be easily reproduced. Such studies will allow the comparison of data from different populations and provide an understanding of the specific cultural features of patients with NBGI.

There are, however, several limitations. The first is the retrospective design. We may not acknowledge potential confounding factors to both psychopathology and suicidality, and the studied group is non-homogenous—for example, we could not extract enough data on male persons with NBGI. We also might have lost patients who died by having committed suicide or for some other reasons.

The baseline characteristics of the cohort represent the second limitation. Both cases and controls were admitted to our center as having psychiatric symptoms, so they do not represent the general population of people with suicidal thoughts or NBGI. Our findings should be interpreted with this limitation in mind. Perhaps the differences might be even greater with controls from the general populations, and some non-significant comparisons might have become significant. Our cohort's absence of psychotic mental disorders makes it impossible to draw a conclusion regarding all women with NBGI, mental disorders, and suicidal ideation.

The third limitation is the sample size that is insufficient to make intra-group comparisons among different NBGI subtypes, among inpatients with suicidal thoughts only, and among those with suicide attempts in the past. Moreover, the sample size could only be suitable for analysis regarding the female inpatients: male inpatients represented less than one-fourth of the original cohort and a cohort of people with NBGI, which could not allow us to analyze all NBGI inpatients altogether.

Conclusions

NBGI inpatients with NPMD and suicidal ideation have several distinct features. Compared to cisgender participants, those with NBGI were less educated, had lower occupational status, faced difficulties in communication with peers in the preschool period, and were bullied at school more often. Sexual experience with both biological sexes is more prevalent

in inpatients with NBGI. Finally, more frequent use of intellectualization distinguished the defense mechanism profile of NBGI from that of cisgender inpatients.

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Declarations

Conflicts of interest Ettore Beghi reports grants from the Italian Ministry of Health, grants from SOBI Pharma Company, personal compensation from Arvelle Therapeutics for advisory board meeting, and compensation for meeting attendance from UCB-Pharma. None of these disclosures are in conflict with his contribution.

The remaining authors have no competing interest to declare that are relevant to the content of this article.

Ethical Approval This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Local Ethics Committee of Moscow research and Clinical Center for Neuropsychiatry.

Consent to Participate Trained psychiatrists obtained written informed consent from all the patients who participated in the study.

Consent for Publication All authors reviewed the latest version of the manuscript and approved it for the publication.

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