

Exploring Cross-Sectional Predictors of Suicide Ideation, Attempt, and Risk in Gender Incongruent Adults in India

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Abstract

Introduction: Suicide rates and suicidal tendencies among gender incongruent persons are higher compared to the general population. Yet little is known about the factors that are relevant for suicide-related outcomes among Indian gender incongruent individuals. **Materials and Methods:** Within a large sample of gender incongruent adults (n=120), we examined the contribution of demographic (age, assigned sex, gender identity, relationship, and addiction status) and socio-economic variables (education, profession, income, social support) in the prediction of three suicide-related outcomes: past-year suicidal thought, history of suicidal attempt and a composite measure of the two. **Results:** Of the entire sample, 25.8% (n=31) reported a past suicide attempt, with 18.3% (n = 22) reporting one attempt, 2.5% (n = 3) reporting two attempts, 1.7% (n = 2) reporting three attempts and 2.5% (n=3) reporting four to six attempts. The age at which the first suicide attempt occurs is mostly between 16 to 18 years. 19.26% (n = 21) reported that although they had not attempted suicide, they had given serious thought to killing themselves in the last year. A Chi-square test was conducted to ascertain each demographic variable and socio-economic marker. However, none of these proposed predictors correlated with suicide-related outcomes in our cohort. **Conclusions:** The gender incongruent community is highly susceptible to suicidal behavior. Gender identity may be the risk factor for that behavior. Further study with larger population needs to identify other relevant risk factors, including gender-related victimization and mental health conditions as risk factors.

Keywords: Gender identity, gender incongruence, suicidal behavior, suicide, transgender persons

INTRODUCTION

Gender incongruence (GI) is a marked and persistent incongruity between gender identity and the assigned gender.^[1] Precise estimates of the number of persons with GI are hard to make, perhaps due to lack of access to an appropriate health care provider. As per the last census in India (2011), the count of five lakh transgender individuals (mostly comprising hijras) is most likely an underestimation. Trends across the studies suggest that GI is more common among individual's assigned male sex at birth than among individuals assigned female sex at birth.^[2] Suicide-related events are much higher in this population.^[2-4]

About 4.1–5.1% of gender incongruent persons in the United States of America (USA) are involved in suicide-related events in contrast to 0.3% of the general population reporting suicidal attempts.^[2] The exact prevalence of completed suicide among gender incongruent persons of India is undocumented.

A sole published document showed a 31% completed suicide rate among transgender persons. Importantly, 50% of gender incongruent persons attempted at least one suicide attempt before their 20th birthday.^[5] Suicidal attempts are significant predictors of subsequent completed suicide and also an important indicator of psychological distress.

Although a growing body of literature has begun to identify factors that contribute to suicide-related outcomes in the gender incongruent population,^[6] there are very few studies from India. The present study is to document factors that

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Submitted: 03-Mar-2021

Published: 08-Sep-2021

Accepted: 29-Jun-2021

Access this article online

Quick Response Code:



Website:
www.ijem.in

DOI:
10.4103/ijem.IJEM_100_21

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How to cite this article: Majumder A, Chatterjee S, Bhattacharjee K. Exploring cross-sectional predictors of suicide ideation, attempt, and risk in gender incongruent adults in India. *Indian J Endocr Metab* 2021;25:103-9.

may contribute to attempted suicide among Indian gender incongruent individuals. The study had two purposes: (a) to add to the small amount of existing knowledge regarding suicidal tendencies among gender incongruent individuals of India and (b) to investigate the impact and correlation of commonly described risk factors of suicidal tendencies among gender incongruent individuals of India.

MATERIALS AND METHODS

A real-world observational study was carried out on the gender incongruent individuals who enrolled themselves for gender affirmative care in the endocrinology outpatient department of a tertiary care hospital in eastern India.

Ethics

The study was approved by the institutional ethics committee, Kolkata.

Study design

Subjects

A total of 120 gender incongruent persons all over the age of 18 years, who were enrolled in the endocrine outpatient clinic between January 2017 and December 2019, were studied. A Transgender Health Survey questionnaire^[7] and a semi-structured questionnaire was handed over to all patients after obtaining written informed consent, as a standard operating procedure of the department. All questionnaires were in English and translated to the local language (Bengali) with back-translation. A trained person discussed the questionnaire during a face-to-face interview with all the patients. At baseline, subjects were routinely advised to consult the mental health department to confirm GI and, to rule out other underlying psychiatric comorbidities based on The Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR) diagnostic criteria. The information generated was recorded in our clinic database both manually and electronically.

Inclusion criteria –

1. Patients who were diagnosed gender incongruent based on DSM-V-TR diagnostic criteria.
2. Age between 18 and 70 years.
3. Enrolled at the endocrinology outpatient department between January 2017 and December 2019.
4. Attended at least two times to complete the questionnaire-based survey.
5. Availability of complete demographic data and/or questionnaire-based survey data.

Measures

Demographics

Participants were asked to self-report their age, sex assigned at birth, gender identity, partnership status, and addiction status according to the Transgender Health Survey questionnaire.^[7] Based on sex assigned at birth and reported gender identity, participants were grouped into (1) transfeminine, (2) transmasculine, (3) bigender, and (4) male cross-dressers (those who were assigned male sex at birth,

have a male gender identity, and cross-dress in public or in private). Data about addiction (smoking/tobacco use, alcohol consumption, marijuana use, and intravenous drug use) were captured during the interview process. The Transgender Health Survey questionnaire was not used for assessing income in our department as the annual household income categories were based on USA dollar rather than income structure based on Indian currency.

Socioeconomic characteristics

Education, profession, income, and quality of support (both financial and psychological) from family, friends, or society were documented in the semi-structured questionnaire of the department. There was no independent verification of data entered in the questionnaire. The income categories were determined using the interactive online calculator provided at www.scaleupdate.weebly.com.^[8] Updated consumer price index value of industrial workers (CPI-IW) was used in the interactive online calculator. For this cross-sectional study where the study population was assessed only once, the latest CPI-IW value available in 2017 was used to determine the income before data collection.

Suicidal behavior

Self-reported suicidal behavior was documented in the semi-structured questionnaire where individuals were asked whether they had any suicidal thought (ideation or plan) of killing themselves and, if so, whether they had these thoughts in the past 12 months. Regardless of the answer to the question about the thought of suicide, they were asked whether they ever attempted suicide. If the response was positive, they were asked to report the age of the first suicide attempt, the number of attempts, and if it was a “lethal” or non-lethal attempt.

Lethal attempt means an attempted suicide by methods carrying a high-fatality risk like hanging or the attempt led to hospitalization for over 24 h and nonlethal means self-injurious behavior characterized by the deliberate destruction of body tissue in the absence of any intent to die.^[9] The self-injurious behavior is as serious and impactful a problem as suicidality.^[9] Patients who presented suicidal thoughts at the time of data collection were captured as the presence of “suicidal thoughts” and those who had attempted suicide in the past along with suicidal thoughts were captured as the presence of “both suicidal thought and attempt.”

Analytic strategy

Data from the database of the endocrinology outpatient department with regards to the demography (age, sex assigned at birth, gender identity, partnership status, and addiction status), socioeconomic characteristics (education, profession, income, and quality of support from family, friend, or society) and suicidal behavior (suicidal thought in last 1 year, both suicidal thought and attempt, the average age of first suicidal attempt, number of attempts and lethal, or non-lethal attempt) were tabulated. Parametric data were presented as

mean \pm standard deviation and categorical data as the raw number (%). A Chi-square test was conducted to ascertain the predictive contribution of each of the demographic variables and socioeconomic characteristics. Significance was assessed at a level of 5%. The statistical analysis was carried out with Statistical Package for Social Sciences (SPSS Complex Samples) Version 21.0 for Windows, SPSS, Inc., Chicago, IL, USA, and Microsoft Word and Excel.

RESULTS

The demographic details (age, assigned sex, gender identity, relationship status, and addiction status) are shown in Table 1.

Socioeconomic characteristics (education, profession, income, and quality of support from family, friends, or society) are shown in Table 2.

The prevalence of suicide is shown in Table 3. Of the entire sample, 17.5% ($n = 21$) reported only suicidal thoughts in the last 1 year and 25.8% ($n = 31$) reported both suicidal thought and attempt(s) in the past. The average age of first suicide attempt was 16.35 (± 4.029) years.

Correlations between demographic variables and socioeconomic variables were examined to ascertain the contribution of each factor in suicide-related outcomes in Table 4. Among all the variables considered in this study, none were found to significantly influence suicidal behavior.

The percentage of suicidal thoughts and suicidal attempts was numerically lower in those who enjoyed full family, friend, and social support compared to those who received partial or no family, friend, and social support but did not reach statistical significance. We could not find any association between the incidence of suicidal behavior with other studied parameters viz. age, assigned sex, gender identity, relationship status, educational qualification, profession, and income of the study subjects.

DISCUSSION

Gender incongruent individuals are at great risk of suicide.^[3] The precise prevalence of suicidal death among gender incongruent individuals in India is still unknown. The rate quoted is about 31% in a review article published in 2016.^[5] However, no other data of suicidal death among gender incongruent individuals in India were available in a PubMed search (with search items - suicide AND death AND transgender AND India). Here, suicidal death cannot be estimated as suicidal thoughts, and suicidal attempts were observed among those gender incongruent individuals who survived and were presented in the endocrinology outpatient department for gender affirmative care.

We found 25.8% of gender incongruent individuals reported at least one suicidal attempt in past; 24.77% of attempts were in transfeminine individuals and 36.36% were in transmasculine individuals. These findings were strikingly different compared to a national survey in the general population of the USA where 4.6% of individuals reported suicide attempts.^[10] The quality of the information about suicide in India is quite limited. According to World Health Organization data, the suicide rate in India is 16.0 per 100,000 for women and 18.6 for men.^[11] A recent population-based, study on suicidality showed the prevalence of 5.1% (95% confidence interval, CI 4.7–5.6) and at least one recent suicide attempt among 0.3% (0.2–0.4) of the population with a higher overall prevalence in women (6.0%) than in men (4.1%).^[12] Suicide attempts have usually been found in higher rates among the gender incongruent individuals including bigender and cross-dressers.^[3] A large and geographically diverse study among gender incongruent young adults (14–30 years of age) of the USA reported a 32.3% overall lifetime suicide attempt rate^[6] which is similar to our data. Although our sample of transmasculine individuals was small, they were associated with higher rates (36.36%) of suicide attempts compared to transfeminine (24.77%) but the between-group difference was not statistically significant [Table 4]. However, transfeminine individuals were prone to multiple suicidal attempts [Table 3]. Most of the suicidal attempts were nonlethal (20%) than lethal (5.83%) [Table 3]. It is accepted that self-harm behavior, irrespective of nature, is as serious and impactful as suicidality.^[9] Moreover, we do not have any count of the people who “successfully” committed suicide. These findings encourage further examination

Table 1: Demographic characteristics for total sample ($n = 120$)

Demographic and identity characteristics	Total sample $n = 120$	
	Individuals assigned male sex at birth ($n = 109$)	Individuals assigned female sex at birth ($n = 11$)
Age (year)	25 \pm 5.42	24.7 \pm 4.63
Gender identity		
Transfeminine	109 (100%)	0
Bigender	0	0
Transmasculine	0	11 (100%)
Male cross dresser	0	0
Relationship status		
Single and no relation	26 (23.85%)	1 (9.09%)
Single and in relation	48 (44.03%)	9 (81.81%)
Single and in multi-relation	33 (30.27%)	1 (9.09%)
Married	2 (1.83%)	0
Married but separated	0	0
Divorced	0	0
Addiction		
No addiction	61 (55.04%)	4 (36.36%)
Presence of addiction	48 (44.9%)	7 (63.63%)
1. Smoking and alcohol	23 (21.10%)	4 (36.36%)
2. Only smoking	11 (10.09%)	2 (18.18%)
3. Only alcohol	14 (12.84%)	1 (9.09%)
4. Marijuana	0	0
5. Intravenous drug	0	0

Table 2: Socioeconomic characteristics for total sample (n=120)

Demographic and identity characteristics	Total sample (n=120)	
	Individuals assigned male sex at birth (n=109)	Individuals assigned female sex at birth (n=11)
Education (self)		
PG/professional	14 (12.84%)	0
Graduate	28 (25.68%)	6 (54.54%)
HS	30 (27.52%)	1 (9.09%)
Madhyamik	13 (11.92%)	1 (9.09%)
Class 8	9 (8.25%)	2 (18.18%)
Literate	15 (13.76%)	1 (9.09%)
Illiterate	0	0
Profession (self)		
Professional	3 (2.75%)	1 (9.09%)
Semi-professional	4 (3.66%)	0
Arithmetic skill jobs	9 (8.25%)	2 (18.18%)
Skilled worker	11 (10.09%)	0
Semi-skilled worker	76 (69.72%)	2 (18.18%)
Unskilled worker	3 (2.75%)	0
Unemployed	3 (2.75%)	6 (54.54%)
Income (self)		
47657 and above	2 (1.8%)	3 (27.27%)
23829-47656	17 (15.59%)	1 (9.09%)
17871-23828	18 (16.51%)	0
11914-17870	21 (19.26%)	1 (9.09%)
7148-11913	33 (30.27%)	2 (18.18%)
2407-7147	15 (13.76%)	0
2406-and below	3 (2.75%)	4 (36.36%)
Support		
Family-not supported	18 (16.51%)	1 (9.09%)
Family -full	74 (67.88%)	10 (90.90%)
Family partial	17 (15.59%)	0
Friend -not supported	15 (13.76%)	0
Friend -full	88 (80.73%)	11 (100%)
Friend partial	6 (5.50%)	0
Society-not supported	45 (41.28%)	3 (27.27%)
Society -full	48 (44.03%)	8 (72.72%)
Society -partial	16 (14.67%)	0

of risk factors of suicidality among gender incongruent individuals in India.

Though, most of the attempts in the cohort were nonlethal (20%), one individual died during the data collection period. Self-harm without the goal of killing oneself is serious and provides an opportunity to intervene with education, intensive counselling, and support.^[9] It is unknown whether factors associated with nonlethal attempts are similar to factors associated with actual suicides in the gender incongruent population. Those transgender individuals who thought of killing themselves and whoever attempted suicide pose a serious diagnostic and therapeutic challenge to health care providers.^[2]

Age has a dominant role in the prevalence of overall suicidality in many studies.^[6,12,13] An inverse association commonly described between age- and suicide-related outcomes, with highest in the youngest age group (15–24 years) and lowest in the oldest age group.^[12] Interestingly, we did not observe any impact of age on suicide-related outcomes in our cohort [Table 4], possibly because of the absence of older age people (above 45 years) in our cohort.

We observed that most (81.81%) of the transmasculine individuals were single and in a relationship compared to transfeminine individuals (44.03%) [Table 1]. However, multiple relationships were common among transfeminine individuals (30.27%). The break-up of a relationship initiated by the partner was considered an important final triggering factor in the act of suicide among transgender persons in India.^[5] However, relationship status had no impact on suicide-related outcomes in our cohort [Table 4].

Although drug abuse was associated with suicide among transgender individuals in many western studies, none in our cohort reported marijuana or intravenous drug use. [Table 1] We did not find an association between addiction and suicidal attempts in our cohort [Table 4]. Some transgender individuals self-inject hormones that they obtain without a prescription, which may not be as great a risk factor as illicit drugs. The risk of suicide-related behaviors was elevated in vulnerable subgroups with low education, individuals lacking stable relationships,

Table 3: Suicidal behavior of the total sample (n=120)

Suicide history	Transfeminine (n=109)	Transmasculine (n=11)	Total (n=120)
Average age of 1 st suicidal attempt (yrs)	16.0 (±4.085)	18.75 (±2.986)	16.35 (±4.029)
Never thought and never attempted	61 (55.96%)	7 (63.64%)	68 (56.7%)
Suicidal thought	21 (19.26%)	0	21 (17.5%)
Both suicidal thought and attempt	27 (24.77%)	4 (36.36%)	31 (25.8%)
One attempt	18 (16.51%)	4 (36.36%)	22 (18.3%)
Two attempts	3 (2.75%)	0	3 (2.5%)
Three attempts	2 (1.83%)	0	2 (1.7%)
Four to six attempts	3 (2.75%)	0	3 (2.5%)
Suicidal death (information from friend)	1 (0.91%)	0	1 (0.8%)
Type of suicide attempt			
Lethal	7 (6.4%)	0	7 (5.83%)
Nonlethal	20 (18.3%)	4 (36.36%)	24 (20%)

Table 4: Predictors of suicide ideation and attempt for total sample (n=120)

Parameters	Total sample (n=120)				Statistical test of significance
	Number	Only Suicidal thought (a)	Suicidal thought and attempt (b)	Either of them Present (a +b)	
Age (year)	120	21	31	52	Chi-square statistic=0.5358 P=0.764
18 to 24, n (%)	56 (100)	6 (10.71)	20 (35.71)	26 (46.42)	
25 to 34, n (%)	53 (100)	12 (22.64)	9 (16.98)	21 (39.62)	
35 to 44, n (%)	11 (100)	3 (27.27)	2 (18.18)	5 (45.45)	
45 to 54, n (%)	0	0	0	0	
55 to 64, n (%)	0	0	0	0	
65 and above, n (%)	0	0	0	0	
Gender identity	120	21	31	52	Chi-square statistic=0.2396 P=0.624
Transfeminine, n (%)	109 (100%)	21 (19.26)	27 (24.77)	48 (44.03)	
Transmasculine, n (%)	11 (100%)	0	4 (36.36)	4 (36.36)	
Relationship status	120	21	31	52	Chi-square statistic=0.621 P=0.733
Single and no relation, n (%)	27 (100)	5 (18.51)	8 (29.62)	13 (48.14)	
Single and in relation, n (%)	57 (100)	12 (21.05)	13 (22.80)	25 (43.85)	
Single and in multirelation, n (%)	34 (100)	4 (11.76)	9 (26.47)	13 (38.23)	
Married, n (%)	2 (100)	0	1 (50)	1 (50)	
Married but separated, n (%)	0	0	0	0	
Divorced, n (%)	0	0	0	0	
Addiction status	120	21	31	52	Chi-square statistic=0.7297 P=0.948
No addiction	65 (100)	11 (16.92)	17 (26.15)	28 (43.07)	
Presence of addiction	55 (100)	10 (18.18)	14 (25.45)	24 (43.63)	
1. Smoking and alcohol	27 (100)	4 (14.81)	7 (25.92)	11 (40.74)	
2. Only smoking	13 (100)	3 (23.07)	4 (30.76)	7 (53.84)	
3. Only Alcohol	15 (100)	3 (20)	3 (20)	6 (40)	
Education	120	21	31	52	Chi-square statistic=9.056 P=0.059
PG/professional, n (%)	14 (100)	4 (28.57)	3 (21.42)	7 (50)	
Graduate, n (%)	34 (100)	6 (17.64)	12 (35.29)	18 (52.94)	
HS, n (%)	31 (100)	2 (6.45)	6 (19.35)	8 (25.80)	
Madhyamik, n (%)	14 (100)	4 (28.57)	2 (14.28)	6 (42.85)	
Class 8, n (%)	11 (100)	2 (18.18)	6 (54.54)	8 (72.72)	
Literate, n (%)	16 (100)	3 (18.75)	2 (12.5)	5 (31.25)	
Illiterate, n (%)	0	0	0	0	
Profession	120	21	31	52	Chi-square statistic=0.6601 P=0.956
Professional, n (%)	4 (100)	0	2 (50)	2 (50)	
Semiprofessional, n (%)	4 (100)	0	1 (25)	1 (25)	
Arithmetic skill jobs, n (%)	11 (100)	2 (18.18)	3 (27.27)	5 (45.45)	
Skilled worker, n (%)	11 (100)	3 (27.27)	2 (18.18)	5 (45.45)	
Semi-skilled worker, n (%)	78 (100)	15 (19.23)	19 (24.35)	34 (43.58)	
Unskilled worker, n (%)	3 (100)	0	0	0	
Unemployed, n (%)	9 (100)	1 (11.11)	4 (44.44)	5 (55.55)	
Income	120	21	31	52	Chi-square statistic=2.642 P=0.619
47657 and above, n (%)	5 (100)	0	1 (20)	1 (20)	
23829-47656, n (%)	18 (100)	3 (16.66)	5 (27.77)	8 (44.44)	
17871-23828, n (%)	18 (100)	4 (22.22)	6 (33.33)	10 (55.55)	
11914-17870, n (%)	22 (100)	3 (13.63)	6 (27.27)	9 (40.90)	
7148-11913, n (%)	35 (100)	7 (20)	11 (31.42)	18 (51.42)	
2407-7147, n (%)	15 (100)	3 (20)	0	3 (20)	
2406-and below, n (%)	7 (100)	1 (14.28)	2 (28.57)	3 (42.85)	
Support	120	21	31	52	Chi-square statistic=3.955 P=0.138
Family-not supported, n (%)	19 (100)	3 (15.7)	8 (42.1)	11 (57.8)	
Family -Full, n (%)	84 (100)	14 (16.66)	18 (21.42)	32 (38.09)	
Family partial, n (%)	17 (100)	4 (23.5)	5 (29.4)	9 (52.9)	

Contd...

Table 4: Contd...

Parameters	Total sample (n=120)				Statistical test of significance
	Number	Only Suicidal thought (a)	Suicidal thought and attempt (b)	Either of them Present (a + b)	
Support from friends	120	21	31	52	Chi-square statistic=0.088 P=0.641
Friend -not supported, n (%)	15 (100)	1 (06.66)	7 (46.66)	8 (53.33)	
Friend -Full, n (%)	99 (100)	20 (20.20)	22 (22.22)	42 (42.42)	
Friend partial, n (%)	6 (100)	0	2 (33.33)	2 (33.33)	
Support from society	120	21	31	52	Chi-square statistic=2.822 P=0.242
Society-not supported, n (%)	48 (100)	3 (06.25)	17 (35.41)	20 (41.66)	
Society - full, n (%)	56 (100)	13 (23.21)	9 (16.07)	22 (39.28)	
Society - partial, n (%)	16 (100)	5 (31.25)	5 (31.25)	10 (62.50)	

and lacking stable employment.^[13] Transmasculine individuals had better educational status (54.5% were graduates) compared to transfeminine individuals (38.5% were graduates) [Table 2]. However, transfeminine individuals had minimal (2.75%) unemployment compared to transmasculine individuals (54.54%). Apart from a few people in both groups earning INR 47657 and above per month, most transfeminine individuals had a better income status in our cohort compared to transmasculine individuals [Table 2]. However, the educational status, profession, and income status had no impact on suicide-related outcomes in our cohort [Table 4].

Social support from family, friends, or society is considered to have a significant impact on the quality of life and protects gender incongruent persons from committing or attempting suicide.^[6] Family and social support was reportedly (in 2016) very poor in the transgender community of India with about 62% having no support and were compelled to live away from their families.^[5] Support has improved in recent years. In contrast to our previous experience 5 years ago where only 10.96% of subjects had received support from their family members,^[14] a significantly higher number of gender incongruent individuals received full support from family (67.88%), a friend (80.73%), and society (44.03%) in our present cohort [Table 2]. However, these supportive factors had no impact on suicide-related outcomes [Table 4]. Similarly, the protective benefits of having parents with higher levels of education, considered to be associated with more positive attitudes toward sexual and gender diversity, were not observed for the transgender adolescents in other studies.^[4]

In a systematic review on correlation of suicide, age, marital status, socioeconomic status, alcohol abuse, and mental illnesses are the identified factors that are most closely associated with suicide in the general population of India.^[12,15] Previous studies among the gender incongruent individuals have found a correlation in suicide-related outcomes with many risk factors like demographics, drug abuse, and social support.^[6] But none of these proposed predictors were correlated with suicide-related outcomes in our cohort. Thus, gender identity and living life outside the tight constraints that Indian society places on gender incongruent individuals may be

the most important factors in suicide-related behaviour among these individuals. Those gender incongruent individuals who ever thought of killing themselves and who ever attempted suicide need to be identified for intervention.^[2]

There are several limitations to this study. First and foremost, this was a sample of convenience, as the study was carried out on the gender incongruent individuals, who enrolled themselves for gender affirmative care in the endocrinology outpatient department. So, the result of these findings should not be generalized to the gender incongruent community of India at large. It is also important to note that gender incongruent people are a heterogeneous group that includes not only trans-people but also individuals of various gender identities. Data were collected from the endocrinology outpatient department, and as a result, this sample is potentially more connected to the somewhat more economically advantageous gender incongruent community by virtue of their attendance at the healthcare institute. As a consequence, rates of suicidal behaviors may be lower than in individuals who are more isolated and less connected to a visible community or support network.

Second, individuals who were assigned male sex at birth were highly represented in this cohort. However, it should be noted that surveying a sizeable sample of gender incongruent individuals is extremely difficult (especially in-person) as is obtaining a truly representative sample.

Third, though poor mental health conditions, especially depressive symptoms among gender incongruent individuals, are commonly considered as independent predictors for suicide-related outcomes,^[5,6,9,13] mental health conditions were not evaluated in the present analysis. Rather than objective assessment, for the shortage of manpower, we resorted to the self-reported assessment of suicidal attempts. This could be inadequate because of recall bias. Also, this assessment did not take into account current or past mental status, essentially missing out on current or past depressive episodes among others. So, the relation between mental illness and suicidal attempts could not be established.

Fourth, gender incongruent people are extremely vulnerable to discrimination, violence, and marginalization, which impact their health and well-being. This is especially concerning given

the high rates of exposure to hate crimes in the transgender community. Transgender-related stigma, discrimination, and violence lead them to lose interest in day-to-day activities and are associated with suicidal behavior.^[3,5,6,9] The high rates of suicidal thoughts and behaviours are a clear indication of these negative impacts,^[9] as victimization appeared to be most strongly associated with a suicide attempt.^[6] We have not looked into the transgender-related violence or hate crimes or victimization and their relationship with suicide-related outcomes in our cohort.

Last, there is survival bias in our data, as we can only assess suicide behaviours among those who have survived and we do not have any data/record of gender incongruent individuals who successfully committed suicide in the community.

Given that relatively little empirical research exists about gender incongruent individuals of India, this study elucidate rates and correlates of suicidal behaviours. Interestingly, we did not find any variable which was significantly associated with suicidal behaviours with gender incongruent individuals of India. Future research, addressing these limitations, should continue to examine these variables and also the other important variables for their associations with larger populations to provide a better understanding of the unique risks among the gender incongruent individuals.

CONCLUSION

The gender incongruent community of India is highly susceptible to suicidal behavior. In contrast to many western studies, a range of demographic and socio-economic variables cross-sectionally did not predict suicidal behaviour among gender incongruent individuals of the present cohort. Further research is needed, with larger and diverse gender incongruent populations, with special attention to gender-related victimization and mental health conditions, to develop a theoretical model of suicide risk for Indian gender incongruent individuals.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Acknowledgements

1. Dr. Amlan Kusum Jana, consultant psychiatrist, for reviewing the manuscript.
2. Ms. Soma Chakraborty for data acquisition and technical support.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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