ORIGINAL ARTICLE

The prevalence of cluster B personality disorder in young male homosexuals

Amir Mohsen Rahnejat [1], Mostafa Babaie [2], Mohammadreza Ebrahimi [3], Ramin Sepahvand [4], Arsia Taghva [3], Hassan Shahmiri Barzoki [3], Mohammadreza Ghasemzadeh [3]

[1] Department of Clinical Psychology, Faculty of Medicine, Aja University of Medical Sciences, Tehran, Iran, [2] 505 Psychiatric Hospital, Tehran, Iran, [3] Department of Psychiatry, Faculty of Medicine, Aja University of Medical Sciences, Tehran, Iran, [4] Student Research Committee, Baqiyatallah University of Medical Sciences, Tehran, Iran.

Correspondence to: Mohammadreza Ebrahimi, 505 Psychiatric Hospital, Oshan St., Minicity, Tehran, Islamic Republic of Iran, Postal code: 1956944141
TEL: (+98) 21 22481806-10; FAX: (+98) 21 22194140; E-MAIL: mr.ebrahimi@ajaums.ac.ir

Abstract

OBJECTIVES: Sexual minority youth are at increased risk for physical and psychological problems compared to heterosexual people. We assessed the prevalence of cluster B personality disorder in a sample of young homosexual men.
METHODS: We performed a cross-sectional study in a psychiatry teaching hospital affiliated with a University of Medical Sciences. In total, 133 young male homosexuals with a mean (SD) age of 24.7(3.5) and the age range of 19 to 38 years participated in the study. Results of Minnesota Multiphasic Personality Inventory version II and Millon Clinical Multiaxial Inventory III scores were recorded, and a variety of demographic characteristics were measured.
RESULTS: Overall, 52(39.1%) had cluster B personality disorders the most common type of which was histrionic followed by narcissistic personality disorder. There were no significant differences between cluster B and non-cluster B in the frequency of sexual relationship, age of the first sex, the history of being sexually abused, sex position, educational achievement, employment, family attitude toward, and accompaniment with the gay member in the recruitment process, family relationship problems, birth order, and the number of suicidal attempts (all *p*>0.05). Participants were commonly the second-born child in their families. The most prevalent sex position was bottom. Commonly, sexually abused participants had experienced the event at primary school ages.
CONCLUSIONS: We concluded that cluster B personality disorders are prevalent among young gay people. There are no significant differences between young male homosexuals with and without cluster B personality disorders in personal, sexual, educational, social, and family aspects.

INTRODUCTION

Accumulating evidence suggests that sexual minority youth are at increased risk for physical and psychological problems compared to heterosexual people (O'Cleirigh *et al.* 018; Strutz *et al.* 2015; Wang *et al.* 2014; Zietsch *et al.* 2011). A negative climate against homosexuality and a shortage of social support increase victimization raise the risk of adverse mental health outcomes (Baptiste-Roberts *et al.* 2017; Ghorayeb & Dalgalarrondo 2011; Proulx *et al.* 2019; Valdiserri *et al.* 2019). Studies verified an increasing attendance at mental health services by homosexual people (Ghorayeb & Dalgalarrondo 2011). Research suggested that the prevalence of depression, panic attacks, and psychological distress are higher in homosexual men than their heterosexual counterparts in the general population (Cochran *et al.* 2003). A survey of mental health among a sample of the non-heterosexual population of England extended the associated morbidities to unhappiness, neurotic disorders overall, depressive episodes, generalized anxiety disorder, obsessive-compulsive disorder, phobic disorder, probable psychosis, suicidal thoughts and acts, self-harm, and alcohol and drug dependence (Chakraborty *et al.* 2011). The subject of psychological well-being among sexual minorities is still open to additional investigation and is attractive to psychiatrists, psychologists, or sexologists, and also to public health professionals (Barbonetti *et al.* 2019; Grabski *et al.* 2012; Gust *et al.* 2013; Mundle *et al.* 2015; Oginni *et al.* 2020; Strutz *et al.* 2015).

Internalized homophobia is a great challenge to homosexuals in achieving a positive social attitude toward the self. Based on this idea, studies on homosexual adjustment suggested that low self-esteem, greater shame, increased depression, poorer ego strength, and increased anxiety correlate with higher levels of internalized homophobia (Allen 2001). Adaptive personality profiles have been suggested to provide resilience in the face of sexual minority-based victimization (Livingston *et al.* 2015a). Studies on personality add to our knowledge of mental health in homosexual people and highlight the etiology and treatment of the comorbidities (Livingston *et al.* 2015a, 2015b; Wang *et al.* 2014).

A study on borderline personality disorder showed that same-gender attraction was an important issue for about one-third of participants (Reich & Zanarini 2008). The relation between sexual orientation and borderline personality disorder was supported further by research on adolescents (Reuter *et al.* 2016). Research indicated that there might be a relation between personality traits and substance use among sexual minority population (Livingston *et al.* 2015b). Borderline, obsessive-compulsive, and avoidant personality were reported as the three more common personality disorders in a sample of gay, lesbian, bisexual, and transgender undergoing treatment of chemical dependency (Grant *et al.* 2011). This

evidence implies the clinical importance of studying personality traits in sexual minority individuals.

Limited information is available regarding the risk of personality traits in non-heterosexuals. A systematic review indicated that the number of newly published research regarding the relations between personality disorders and sexual functions is small (Cabello-Garcia *et al.* 2020). Similarly, research on personality traits among sexual minority populations is still not sufficient to have important clinical implications (Wang *et al.* 2014). In addition, there is substantial heterogeneity of the results across studies that could not be explained merely by different sample sizes and sampling processes. Some studies recruited samples of combined sexual minority groups with both sexes and different age categories (Grant *et al.* 2011). Researchers suggest separating bisexual individuals in studies of identity formation research to avoid confounding results (Rosario *et al.* 2011). These confounders influence the results unless a large sample is included and their effects adjusted at the time of analysis. Therefore, the potential association of personality disorders with homosexuality still requires careful evaluation.

The aim of conducting this study was to assess the risk of cluster B personality disorder in a sample of young homosexual men. We tried to minimize the confounding effects of patients' age and sex by recruiting male participants from a narrow age range. We hypothesized that cluster B personality disorders would be associated with the individual's characteristics in homosexuals.

MATERIAL AND METHODS

Design and Setting

From July 2017 for one year we performed a single group cross-sectional study. The study was conducted in a teaching psychiatry center affiliated with a University of Medical Sciences in Tehran, Iran. The center is a referral and well-equipped setting with a high patient turnover. The study was carried out in accordance with the Declaration of Helsinki. Ethics approval was obtained from the Institutional Review Board of Aja University of Medical Sciences with the reference number of IR.AJAUMS.REC.1399.074. All participants gave written consents. They received verbal and written explanations of the nature and purpose of the study. Patients were informed that they were free to withdraw from the study.

Eligibility and Recruitment

Based on the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5),(Nussbaum 2013; Zimmermann *et al.* 2019) sexual orientation, the Minnesota Multiphasic Personality Inventory (MMPI)-II and its Masculinity-Femininity scale, we included young gay people if their age was between 18 and 40 years. The exclusion criteria were heterosexuality,

bisexuality, and lack of willingness to participate. We recruited individuals from university students. Potential participants were invited to attend a screening visit in which a psychologist interviewed individuals and took a detailed psychological history. The patients were then presented to a consensus committee of the authors who confirmed their eligibility and invited them to participate in the study. Participants filled in a questionnaire on their demographic data, MMPI-II, and Millon Clinical Multiaxial Inventory (MCMI)-III.

Measurements
MMPI-2
The MMPI-II is a 567 item, true/false self-report questionnaire of psychological state and a commonly used instrument for clinical personality assessment (Nezami *et al.* 2008). It is widely used in clinical, legal, and organizational settings and is capable of detecting fake-bad and fake-good response biases (Baer & Miller 2002). A study showed that participants who filled the questionnaire and underreported psychopathology differed from those who responded honestly by one standard deviation on underreporting indices (Baer & Miller 2002). Extensive research has been carried out on the Farsi-translated MMPI-2 questionnaire and its variants (Habibi *et al.* 2013; Nezami *et al.* 1996, 2008). We used a Farsi-translated MMPI-2 questionnaire for which psychometric properties were investigated in a sample of 1418 individuals (895 females and 590 males) (Dehghani *et al.* 2010). Patients were diagnosed as having cluster B personality disorder if they had at least one antisocial, borderline, histrionic, or narcissistic personality disorder.

MCMI-III
We used the MCMI-III to assess personality and emotional adjustment in our patients (Millon & Davis 1997). The instrument is a self-report questionnaire including 175 true/false questions. The questionnaire is administered to people ≥ 18 years of age and is able to recognize 14 personalities and 10 symptoms. It has good reliability and is consistent with DSM. The final score is easily calculated and it takes the patient about 10-15 minutes to answer all the questions. We administered a normalized Persian-translated of MCMI-III to participants (Dadfar & Lester 2017; Sharifi *et al.*

Tab. 1. The MMPI-II and MCMI-III results (N = 133)

Characteristic	Category	Frequency (%)
MF index in MMPI-II	< 50	37 (27.8)
	> 50	96 (72.2)
Clusters in MCMI-III	Cluster A	24 (18.0)
	Cluster B	52 (39.1)
	Cluster C	23 (17.3)
	Without symptoms	34 (25.6)

2002). The test-retest reliability coefficients of the questionnaire were from 0.82 to 0.98. Cronbach's alpha coefficients were from 0.85 to 0.97. Positive Predictive Powers were from 0.58 to 0.83. Negative Predictive Powers were from 0.93 to 0.99. Overall Predictive Powers were from 0.86 to 0.93.

We also recorded age, the level of education, job, birth order, sex position, history of being sexually abused as a child, beginning of same-sex attraction, the first softcore, and hardcore sex relationship, how to face the problem, the average number of sex relationships per month, suicidal attempt, living with a family or partner, presence of a family member in the recruitment process, informing the family, divorce in the family.

Statistical analyses
Results are presented as mean (SD) for continuous variables, and as absolute numbers (%) for categorical data. The means of the continuous variables were compared using paired and independent t-tests. Either a χ^2 test or Fisher's exact test was used for testing differences among the study groups for categorical variables. The level of significance was set at two-tailed α = 0.05. All data analyses were performed with R version 3.5.0 for windows. R is a well-known open-source environment for computing and graphics (https://www.r-project.org/).

RESULTS

There was no missing data in our sample. Of the 133 included young gay, 52 (39.1%) had cluster B personality disorders. Mean (SD) and median [inter-

Tab. 2. Frequency of cluster B personality disorders in the sample

Personality disorder (%)	Percent in Cluster B Group (n = 52)	Percent in Total Sample (n = 133)
Borderline	4 (7.7)	3.0
Histrionic	35 (67.3)	26.3
Narcissistic	7 (13.5)	5.3
Other cluster B personality disorders (including antisocial personality)	6 (11.5)	4.5
Total	52 (39.1)	31.6

Tab. 3. Participants' characteristics (N = 133)

Feature	Group		p-value*
	Cluster B **(n = 52)**	**Non-cluster B** **(n = 81)**	
Mean (SD) age	25.6 (3.4)	24.1 (3.4)	0.011
Age category (%)			
< 25	29 (55.8)	57 (70.4)	0.125
≥ 25	23 (44.2)	24 (29.6)	
Mean sexual relationship per month (SD)	7.4 (5.5)	8.3 (6.9)	0.388
Last education degree (%)			
High school	12 (23.1)	31 (38.3)	
Associate	9 (17.3)	13 (16)	0.260
Bachelor	22 (42.3)	29 (35.8)	
Master or Doctor	9 (17.3)	8 (9.9)	
Employed (%)	33 (63.5)	39 (48.1)	0.121
Birth order (%)			
First	11 (21.2)	17 (21)	
Second	32 (61.5)	42 (51.9)	0.265
Third	9 (17.3)	17 (21)	
Fourth	0	5 (6.2)	
Sex position (%)			
Top	0	0	
Versatile\Top	3 (5.8)	3 (3.7)	
Versatile	7 (13.5)	10 (12.3)	0.932
Versatile\Bottom	14 (26.9)	21 (25.9)	
Bottom	28 (53.8)	47 (58)	
Being sexually abused (%)			
No	35 (67.3)	55 (67.9)	
Primary school	14 (26.9)	19 (23.5)	
Middle school	0	0	0.404
High school	1 (1.9)	6 (7.4)	
After high school	2 (3.8)	1 (1.2)	
First same-sex attraction (%)			
Primary school	37 (71.2)	62 (76.5)	0.623
Middle school	15 (28.8)	19 (23.5)	
First soft sex (%)			
Primary school	8 (15.4)	11 (13.6)	
Middle school	27 (51.9)	49 (60.5)	0.656
High school	11 (21.2)	16 (19.8)	
After high school	6 (11.5)	5 (6.2)	
First hard sex (%)			
Primary school	0	0	
Middle school	9 (17.3)	22 (27.2)	0.240
High school	21 (40.4)	35 (43.2)	
After high school	22 (42.3)	24 (29.6)	
Suicidal attempt (%)	8 (15.4)	20 (24.7)	0.286

Feature	Group		p-value*
	Cluster B **(n = 52)**	**Non-cluster B** **(n = 81)**	
Live with (%)			
Family	26 (50)	33 (40.7)	
Partner	23 (44.2)	45 (55.6)	0.426
Alone	3 (5.8)	3 (3.7)	
Family attitude (%)			
Do not know	25 (48.1)	31 (38.3)	
Know, attitude unknown	11 (21.2)	17 (21)	
Know, supportive	15 (28.8)	29 (35.8)	0.582
Know, not supportive	1 (1.9)	4 (4.9)	
Family accompanied (%)	27 (51.9)	47 (58)	0.608
Accompanying family member (%)			
None	25 (48.1)	34 (42)	
Mother	17 (32.7)	28 (34.6)	
Father	4 (7.7)	6 (7.4)	0.161
Sister	3 (5.8)	12 (14.8)	
Relatives	3 (5.8)	1 (1.2)	
Family problems (%)			
Divorce	4 (7.7)	5 (6.2)	
Parents arguing	1 (1.9)	5 (6.2)	
Parents died (one or both)	2 (3.8)	6 (7.4)	0.532
Unknown	45 (86.5)	65 (80.2)	

*continuous variables were compared with independent t-test and categorical variables were compared with χ^2 test.
**significant at *p*< 0.05

quartile range] ages were 24.7 (3.5) with a maximum of 38 and a minimum of 19 years. In total, 51 (38.3%) participants had a bachelor degree (the most common education level), 72 (54.1%) were employed, and 74 (55.6%) were the second child in the family. Most of the participants self-labeled themselves as the ones who prefer the receptive position in sex relationships [75 (56.4%) bottom position]. Ninety (67.7%) individuals did not report any history of being sexually abused, but 33 (24.8%) had been sexually assaulted at high school ages. Most of the participants reported same-sex attraction at primary school [99 (74.4%)], the first soft sex at middle school [76 (57.1%)], and the first hard sex at high school ages [56 (42.1%)]. The average number of sex per month was 7.9 with the mode of 5 times per month. Of the total sample, 28 (21.1%) had suicidal attempts, 68 (51.1%) were living with their partner, and 44 (33.1%) had an aware and supportive family.

Table 1 and 2 display the frequency (%) of subcategories in the sample. Also, Table 3 shows comparisons of participants' characteristics in cluster B and non-cluster B groups. The comparisons show that the two groups were similar in the outcome measures.

DISCUSSION

We conducted the present study to find the prevalence of cluster B personality disorder in young male homosexual people. Our results indicated that 52 (39.1%) of the participants had cluster B personality the most common type of which was the histrionic personality disorder. While our participants with cluster B personality had a greater mean age, the difference was not clinically important. In addition, we did not find significant differences in the number of sexual relationships per month, age of the first sex, the history of being sexually abused, and sex position. The two subgroups were similar in educational achievement and employment. Also, there were no differences in family characteristics in our study such as attitude toward and accompaniment with the gay member in the recruitment process, problems within a family relationship, and birth order. Our data did not imply a difference between participants with, and without cluster B personality in the number of suicidal attempts. Overall, there were no significant differences between the two groups in personal, sexual, educational, social, and family aspects.

Anzani *et al.* assessed the personality patterns of a group of transgender individuals including 40 women and 47 men (Anzani *et al.* 2020). They found that about 50% of participants had at least one personality disorder with borderline as the most common type of personality. Overall, 12% of their participants had cluster B personality disorder. They included a mixed sample of both sexes who came to a clinic to undergo gender-affirming treatments. Also, in a study carried out by Grant *et al.* researchers assessed personality disorder in 145 gay, lesbian, bisexual, and transgender individuals who were admitted to a chemical dependency program (Grant *et al.* 2011). Overall, 136 (93.8%) participants had at least one personality disorder of which the most common category was borderline (n = 93; 64.1%), followed by obsessive-compulsive (n = 82; 56.6%), and avoidant (n = 71; 49.0%) personality disorders. Also, 122 (84.1%) participants had at least 2, and 101 (69.7%) had at least 3 personality disorders. There were no significant differences between participants with, and without personality disorder with respect to age, gender proportion, sexual orientation, education, race and ethnicity, and relationship status (all *p* > 0.05). It was concluded that there is a high prevalence of personality disorders in the sexual minority people undergoing chemical dependency treatment. They included both sexes with a variety of sexual orientations. Our study was larger than Anzani's study and we recruited more homosexuals than Grant's study. We provided a sample of young gay people without the confounding effect of bisexual orientation. Also, we assessed more characteristics for each participant. Meanwhile, our study confirmed that there are no significant differences between cluster B and non-cluster B groups in demographic characteristics.

In a study on 5875 young Swiss men presenting for mandatory military conscription, Wang *et al.* found that among 62 homosexual men (those who were only attracted to men), 9.7% had anti-social personality disorder (Wang *et al.* 2014). In Grant's and Anzani's studies, borderline personality was the most prevalent personality disorder (Anzani *et al.* 2020; Grant *et al.* 2011). Rubinstein *et al.* believed that homosexual students score higher in measures of narcissism compared to their heterosexual counterparts (Rubinstein 2010). In our study, histrionic personality was the most common form of personality disorder, followed by narcissistic personality. However, we think that our study is superior in terms of the representativeness, homogeneity, and size of the sample compared with other studies. Besides, our results confirmed the association of narcissistic personality and homosexuality in the young male population.

Wang *et al.* reported that 6% of their homosexual or bisexual participants had attempted suicide in the past 12 months (Wang *et al.* 2014). They estimated an odds ratio of OR=5.10 with a 95% CI of 2.57 to10.1 for suicidal attempts. Our study showed a higher percentage of suicidal attempts. It should be noticed that we recruited only homosexual participants without bisexual orientation. A negative attitude toward homosexuality might increase stigma, prejudice, and discrimination, and therefore create a stressful environment with a greater risk for suicide in gay people.

Zheng *et al.* studied a sample of 220 Internet-obtained Chinese gay men and reported that of 220 participants, 60 (27.2%) self-identified as the top, 76 (34.5%) as the bottom, and 82 (37.3%) as versatile, and two (0.9%) refused to self-label (Zheng *et al.* 2012). Also, they suggested that sexual self-labels might distinguish sexual behavior patterns and gender role differences among Chinese gay men. In our sample bottom position was the most prevalent sex position followed by a combined versatile/bottom.

Apostolou *et al.* investigated the association of having older brothers with an increased incidence of male homosexuality (Apostolou 2020). They studied an online sample of 1617 Greek-speaking participants and reported that a higher number of older brothers is associated with an increased probability of being homosexual. Most of our participants had older siblings; however, there was no significant difference between cluster B and non-cluster B groups in birth order.

To our knowledge, this is the first report describing the prevalence of cluster B personality disorders among young gay people. We compared a large number of features between the two subsamples with, and without cluster B personality disorder. Our analyses were straightforward and the sample size was large enough to find if there were statistically or clinically significant differences between the two subgroups. However, a larger sample size may reveal subtle discrepancies between male homosexuals with and without cluster B personality. We did not extend our study beyond young male homosexuals to investigate other sexual minorities of both sexes and of other age categories. Until reliable information of different subpopulations is collected, it is difficult to develop new or to assess existed models explaining the relation between personality and sexual orientation. Further large-scale research with stratified random sampling is indicated to enable us to provide a holistic view of the psychology of homosexual people.

Conclusion

Our study showed that cluster B personality disorders are prevalent entities among young gay people. Histrionic personality was the most common type of personality disorder followed by narcissistic personality. Also, our results suggested that there were no significant differences between young homosexual male individuals with or without cluster B personality disorder with respect to age, frequency of sexual relationship, age of the first sex, the history of being sexually abused, sex position, education, employment, family attitude

toward the gay member, birth order, and suicidal attempt. In conclusion, the clinician should consider the high risk for cluster B personality disorders in young male homosexuals. We recommend further research with larger samples to estimate the prevalence of personality disorders among other sexual minorities.

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