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Sexual risk behaviors among women with bipolar disorder

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ABSTRACT

The aim of this study was to investigate sexual health and sexual risk behaviors for sexually transmitted infections (STI) among women with bipolar disorder (BDW). Sixty-three euthymic women diagnosed with bipolar disorder type I, II or not otherwise specified were included and matched with a control group of 63 healthy women. Demographic and clinical data, structured sexual health measures and extensive assessment of sexual risk behavior were obtained and compared between groups. BDW had casual partners, were in non-monogamous sexual partnerships and had sex with partners with unknown HIV condition more frequently than healthy control women. History of two or more STI was more frequent among BDW. Inclusion of sexual behavior risk assessment among BDW in treatment is necessary to better identify those women with higher risk for STI and to take measures to improve their sexual health.

1. Introduction

Unsafe sex represents one of the main risk factors for disease, disability and death around the world (Glasier et al., 2006). Consequences of unsafe sex are unintended pregnancies and sexually transmitted infections (STI). Sexually transmitted infections are caused by bacterial, parasitic and viral pathogens, including HIV, which are transmitted through sexual contact. They are a significant cause of morbidity and mortality for women if they are not early diagnosed and treated (Low et al., 2006). Sexually transmitted infections in women are associated with pelvic pain, infertility, ectopic pregnancies, obstetric complications, and different types of genital cancer (WHO, 2012). They may also affect offspring health if women are pregnant or give birth while infected (WHO, 2012).

Women with severe mental illness (SMI) constitute a population considered to be especially vulnerable to unsafe sexual practices. Sexual risk behaviors like having unprotected sex, having multiple sexual partners, trading sex, and using injected drugs have been found to be more prevalent in samples of people with SMI (for a detailed review see Meade and Sikkema, 2005). Particularly, women with SMI may be victims of sexual coercion or more frequently fail to have their male partners using condoms compared with control women (Coverdale et al., 1997). There is evidence that HIV infection is more frequent in people with SMI than in the general population (De Hert et al., 2011) but less is known about the prevalence of other sexually transmitted infections (Rosenberg et al., 2001; King et al., 2008).

As in the general population, women with SMI have STI more frequently than men (Aral et al., 2004, Chandra et al., 2003; Carey et al., 2004). While some investigations have been conducted on sexual and reproductive issues of women with schizophrenia (Miller, 1997; Seeman, 2013), sexual health of women with bipolar disorder (BDW) has received less attention. This is notorious because changes in sexual behavior are commonly present during affective episodes of illness (Goodwin and Jamison, 2007). It was found that recent manic episode was associated with increased HIV risk behaviors among subjects with bipolar disorder and substance use disorders (Meade et al., 2008). Likewise, this high-risk pattern could exceed manic episodes, because loss of sexual inhibition was highly reported also during hypomanic episodes (Fletcher et al., 2013). However, to the best of our knowledge, there are no studies conducted on euthymic patients to elucidate if sexual risk behaviors remain beyond manic or hypomanic episodes. Then, the aim of this study was to compare sexual health focusing on risk behaviors for STI between euthymic BDW and healthy control women.

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2. Methods

Sixty-three female outpatients with bipolar disorder diagnosis from the Bipolar Disorder Program of Favaloro University were consecutively included in this study if they met the following criteria: (a) age between 18 and 55 years old; (b) diagnosis of bipolar disorder type I, II or not otherwise specified according to DSM-IV-SCID criteria (First et al., 1996); and (c) euthymia [defined by Hamilton Depression Rating Scale ≤ 8 (Hamilton, 1960) and Young Mania Rating Scale ≤ 6 (Young et al., 1978)] for at least 8 consecutive weeks. Patients were excluded if they had any clinical condition that could affect the ability to understand instructions and complete study questionnaires. Additionally, 63 healthy women with no history of psychiatric disorders were included as part of the control group. They were recruited from the same socio-economic population and matched by age and years of education with patients.

The study was approved by the Ethics Committee of Favaloro University and all subjects gave written informed consent for their participation after receiving a complete description of the study. Structured interviews were conducted with BDW and healthy women by the first author.

2.1. Demographic and clinical assessment

Information about age, years of education, marital status, current stable relationship condition, and religion were collected from all participants. Subjects completed the clinical evaluation using the Structured Clinical Interview for DSM-IV (SCID) (First et al., 1996) in order to confirm bipolar disorder diagnosis. All BDW were evaluated with the Hamilton Depression Rating Scale (HDRS), Young Mania Rating Scale (YMRS) and Global Assessment of Functioning (GAF), and additional clinical data were obtained from structured interview and clinical records when it was needed.

2.2. Sexual health assessment

Information about sexual health was collected in both groups with a structured interview that includes age at first intercourse, history and number of lifetime sexually transmitted diseases, history of gynecologic screening examination in the last three years and sexual activity with partners during the last three months. Among subjects and controls who were sexually active during the last three months, the HIV-risk Timeline Followback interview (TLFB) (Weinhardt et al., 1998; Carey et al., 2001) was conducted. The HIV-risk TLFB is a structured interview designed to provide a comprehensive assessment of HIV and STI risk, and to yield frequencies of protected and unprotected sex, use of alcohol or substances before sex and describe other sexual partner characteristics (i.e. casual or regular partner, HIV status, bisexuality and monogamous condition).

2.3. Data analysis

Initial data were explored with descriptive statistics. Normality of variables was assessed with Kolmogorov–Smirnov test. The low frequency of most of sexual behaviors reported required non-parametric statistic analysis strategies. Mann–Whitney test was employed for between-group comparisons on continuous non-parametric variables. Chi-squared tests or exact Fisher tests were employed to evaluate associations between categorical variables. Events reported by less than 5% of both study and control groups were excluded from further analysis because of their extremely low frequency. All tests were two-tailed. Statistical Package for the Social Sciences (SPSS) (SPSS, 2008) version 20.00 was used for all statistical procedures.

3. Results

3.1. Demographic and clinical characteristics

The detailed information of demographic characteristics of both groups and clinical state and psychiatric history of BDW are shown in Table 1.

3.2. Sexual health and behavior characteristics

3.2.1. Sexual health characteristics

Detailed information about sexual health characteristics of BDW and the control group is shown in Table 2.

Most women in both groups reported gynecologic examination frequency according to local guidelines (BDW= 93.7% [$n=60$] vs. Controls: 95.2% [$n=61$], Fisher's exact Test, d.f.$=1$, $p=1.00$). There were no differences in reported history of at least one STI between groups, but BDW reported more frequently having been diagnosed two or more times with STI. Exploratory bivariate subanalysis was conducted among BDW that had reported two or more STI (STI ≥ 2) versus those with one or none STI (STI ≤ 1). Repeated STI in BDW was associated with earlier age at onset of bipolar disorder (STI ≥ 2: Median$=15$ years [interquartile range$=$ 14–16], vs. STI ≤ 1: 18 years [15–25]; Mann–Witney Z$=$-2.095, $p=$ 0.036); longer diagnostic delay (STI ≥ 2: Median$=15$ years [interquartile range$=$ 7–18], vs. STI ≤ 1: 8 years [5-12]; Mann–Witney Z$=-1.985$, $p=0.047$), and higher number of manic/hypomanic episodes (STI ≥ 2: Median$=$ 9.5 episodes [interquartile range$=$ 5–15], vs. STI ≤ 1: 3 episodes [2–5]; Mann–Witney $Z=-2.927$,

Table 1
Clinical and demographical characteristics of women with bipolar disorder and healthy controls (continuous values are expressed as median, interquartile ranges are shown in brackets).

	Women with BD ($n=63$)	Healthy controls ($n=63$)	Test/p-value
Age	33 (28–33)	33 (29–37)	$Z=-0.369$[a]; $p=0.71$
Years of education	16 (15–17)	17 (14–17)	$Z=-1.226$[a]; $p=0.22$
Married/living with a partner	31.7%	60.3%	$X^2=10.351$[b]; $d.f.=1$; $p=0.001$
In current stable relationship	61.9%	77.8%	$X^2=3.768$[b]; $d.f.=1$; $p=0.05$
Religion			$X^2=2.315$[b]; $d.f.=2$; $p=0.31$
None	39.7%	47.6%	
Catholic	54%	50.8%	
Others	6.4%	1.6%	
Clinical subtype (% type I)	33.3%		
Current Axis I comorbidity	30.2%		
Age at onset	18 (15–23)		
BD diagnostic delay (in years)[c]	8 (5–13)		
No. of total previous affective episodes	8 (5–15)		
History of hospitalization	36.5%		
History of substance abuse disorder	28.6%		
History of rapid cycling	19%		
YMRS Score	1 (0–2)		
HDRS Score	2 (1–4)		
GAF Score	85 (75–90)		

Abbreviation; BD: Bipolar disorder; YMRS: Young Mania Rating Scale; HDRS: Hamilton Depression Rating Scale, GAF: Global Assessment of Functioning.

[a] Mann–Whitney.

[b] Chi-square.

[c] Calculated as the difference between age at onset of BD and age at BD was diagnosed.

Table 2
Sexual health characteristics of women with bipolar disorder and healthy controls (continuous values are expressed as median, interquartile ranges are shown in brackets).

	Women with BD ($n=63$)	Healthy controls ($n=63$)	Test/p-value
Age at first intercourse	18 (16–20)	17 (16–19)	$Z=-1.251$[a]; $p=0.211$
Had sex with partners (last three months)	88.9%	88.9%	$X^2=0.00$[b]; d.f.= 1; $p=1.00$
History of at least one STI lifetime	41.7%	33.2%	$X^2=0.912$[b]; d.f.=1; $p=0.34$
History of two or more STI lifetime	13.3%	3.2%	$X^2=4.246$[b]; d.f.=1 $p=0.039$
HIV Risk Timeline Followback Interview			
Number of sexual partners[c]	1 (1–1)	1 (1–1)	$Z=-1.509$[a]; $p=0.13$
Casual sexual partners[c]	21.4%	5.4%	$X^2=6.235$[b]; d.f.=1; $p=0.013$
Multiple sexual partners[c]	14.5%	8.3%	$X^2=1.147$[b], d.f.=1; $p=0.284$
Non-monogamous sexual partners[c]	37.5%	17.9%	$X^2=5.397$[b]; d.f.= 1; $p=0.02$
Partners with HIV Unknown condition[c]	14.3%	3.6%	$X^2=3.953$[b]; d.f.=1; $p=0.047$
Consistent use of condoms[d]	42.9%	40.4%	$X^2=0.23$[b]; d.f.=1; $p=0.88$
Use alcohol or drugs before sex[d]	33%	20%	*Fisher Exact Test*[e]; $p=0.68$

Abbreviation; BD: Bipolar disorder; STD: sexually transmitted diseases

[a] Mann–Whitney.
[b] Chi-square.
[c] Calculated among women who have sex during last three month (BD: $n=56$ vs. Controls: $n=56$).
[d] Calculated among women who have sex with casual and/or outside mutually monogamous partnership (BD: $n=21$ vs. Controls: $n=10$);
[e] Fisher's Exact Test.

$p=0.003$), but not with bipolar disorder type, history of substance abuse disorder, number of depressive episodes, age at first sexual intercourse and not being married/living with a partner (all p's > 0.05).

3.2.2. HIV-Risk Timeline Followback Interview

Detailed responses of TLFB interview are shown in Table 2.

Suspected use of injected drugs and HIV positive condition of sexual partners, and trading sex had reported frequencies lower than 5% in both groups.

4. Discussion

The main findings of this study were that euthymic BDW in treatment reported having sex with casual partners, being in non-monogamous sexual partnerships and having sex with partners with unknown HIV condition more frequently than women from the control group. Rates of other sexual risk behaviors like inconsistent use of condoms, multiple sexual partners and use of alcohol or substances before having sex showed no differences between groups.

The finding of more frequent casual sex, non-monogamous partnerships and unknown HIV status of partners among euthymic BDW might be associated with demographic or clinical features of this sample. One possible explanation to these findings may be related to the fact that BDW were less frequently married or in steady partnership than healthy control women. In this situation, to have sex with casual partners (from whom monogamy or HIV status would not be assured) may be more frequent. Another possible explanation for these findings may be related to psychiatric characteristics that BDW may have, which were not assessed in our study. For instance, history of childhood sexual abuse was not assessed and could affect sexual risk behaviors. More research to clarify influence of other demographic or clinical factors among euthymic BDW is needed.

While we found some higher sexual risk among euthymic BDW compared to matched healthy women, our investigation showed no differences between study groups on other hazardous sexual behaviors previously described. Although evidence is limited, two studies conducted on subjects with comorbid bipolar and substance use disorder showed that these patients were more likely to have unprotected sex, multiple sexual partners and to trade sex (Meade et al., 2008, 2011). Likewise, higher-risk sexual behaviors were associated to lower psychiatric severity, more recent and enduring manic episodes, and cocaine abuse in retrospective and follow-up studies (Meade et al., 2008, 2011). Another research report found that subjects with mood disorders informed unprotected intercourse more frequently and higher number of sexual partners than subjects with psychotic disorders (Carey et al., 2004). Among subjects with mood disorders, those with bipolar disorder had history of more STI than subjects with unipolar depression (Carey et al., 2004). Clearly, those investigations have underscored the presence of particular sexual risk behaviors among subjects with bipolar disorders, but the lack of control group does not allow for comparisons with our findings. Unlike other investigations conducted on SMI population, trading sex and having sex with users of injected drugs were absent in our sample. The finding of no difference between groups in many risky behaviors and the absence of other sexual risk behaviors observed in previous research may be related to the euthymic condition of BDW sample. Lower rates of lifetime substance abuse than observed in other studies (Regier et al., 1990) as also demographic features of the study group may influence our findings.

It is worth noting that history of STI requires some analysis. In the current study, there were no between-group differences in the proportion of women who had been diagnosed with at least one STI, but 13% of BDW and 3% of healthy women informed repeated lifetime STI. This suggests that some BDW could not improve their protective sexual behaviors despite having had a first event. Actually, earlier onset of bipolar disorder, longer delay in receiving diagnosis and more manic episodes were significantly related to repeated STI. Thus, it is possible to hypothesize that illness onset among youths may interfere with the development of sexual behavior, setting a pattern of risky sexual behavior. Another hypothesis is that some symptoms and behaviors occurring during untreated illness or manic episodes may interfere with sexual health care as it has been observed in a previous report (Meade et al., 2008). Studies with larger sample size may help to clarify the role of these factors in sexual risk behaviors.

Some limitations must be taken into account. Information on sexual behavior and history of STI were retrospective and self-reported, thus being probably affected by information bias. Second, the TLFB interview has not been validated in the Argentinean population. Nevertheless, comparison with a matched controlled group supports the data provided by this study. Third, sample size

was not large enough to detect behaviors that could have extremely low frequencies. Besides, history of childhood sexual abuse or any measure of impulsivity were not included and may affect sexual behaviors. Finally, our investigation was developed on a sample of BDW with low frequency of substance abuse and other psychiatric comorbidities, highly functional, well-educated, urban, middle and upper middle class BDW who seek treatment. These characteristics cannot be generalized to broader populations of women with such diagnosis. Hence, replication in larger heterogeneous samples will be required to confirm our findings.

The findings of this study underscore the need to include routine sexual behavior risk assessment for STI among BDW in treatment to better identify those women with higher risk. This would allow clinicians to widely discuss with BDW the need for proper sexual care measures and/or to refer them to STI clinics, especially if they present with early onset of illness, longer delay to diagnosis and high number of hypomanic/manic episodes for proper attention. In fact, these findings highlight the importance that timely diagnosis of bipolar disorders and proper treatment may have not only to mental health but also to other aspects of health in affected subjects. Because of the unique clinical features of bipolar disorder characterized by significant emotional, cognitive and behavioral changes over time, more research is needed to better comprehend their sexual behavior patterns and sexual health needs along different states of illness.

Conflict of interest statement

None.

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