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The manic and hypomanic phases in bipolar disorder and female sexuality in early adulthood

Fazy maniakalne i hipomaniakalne w chorobie afektywnej dwubiegunowej a seksualność kobiet we wczesnej dorosłości

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Abstract

Background: Despite the fact that a change in sexual behaviour is considered an integral part of bipolar disorder, hardly any literature on sexual problems in women with this disease is available. **Aim:** The study aimed to determine whether there is an association between manic/hypomanic phases and sexual dysfunction and alcohol use, and to test for differences between the control and study groups. **Materials and methods:** The study involved 590 women from Poland, aged 19–40 years. The control group consisted of 538 and the bipolar disorder group of 52 subjects. The study used the Female Sexual Function Index and two original questionnaires: the Questionnaire of Sexual Risk Behaviour (Cronbach's alpha 0.7) and the Questionnaire of Manic/Hypomanic Phases (Cronbach's alpha 0.89). Data were analysed by Spearman's rho correlation coefficient and Mann–Whitney *U* test of differences. **Results:** The study showed a relationship between the manic/hypomanic phase and a decrease in dysfunction in the area of orgasm, and a relationship between the frequency of alcohol consumption and engaging in homosexual behaviours. Women with bipolar disorder were more likely to engage in risky behaviours than women in the control group, and showed higher ratings of dysfunction of the desire and arousal areas as well as higher overall ratings of sexual dysfunction. **Conclusions:** There is a need for ongoing research in this topic area to develop the field of sexual symptomatology in bipolar disorder in relation to current sexual, cultural, and gender norms.

Keywords: bipolar disorder, sexuality, manic episodes, hypomanic episodes, early adulthood

Streszczenie

Tło: Chociaż zmiana w zachowaniu seksualnym uchodzi za integralną część choroby afektywnej dwubiegunowej, to jednak literatura dotycząca problemów seksualnych kobiet cierpiących na tę chorobę jest ograniczona. **Cel:** Badanie miało na celu określenie, czy istnieje związek pomiędzy fazami maniakalnymi/hipomaniakalnymi a dysfunkcjami seksualnymi oraz spożywaniem alkoholu, a także sprawdzenie różnic między grupą kontrolną a badaną. **Materiał i metody:** W badaniu wzięło udział 590 kobiet z Polski w wieku 19–40 lat. Grupa kontrolna stanowiła 538 osób, zaś grupa kobiet z chorobą afektywną dwubiegunową – 52. W badaniu użyto Indeksu Funkcji Seksualnych Kobiet oraz dwóch autorskich narzędzi: Kwestionariusza Ryzykownych Zachowań Seksualnych (alfa Cronbacha 0,7) oraz Kwestionariusza Faz Maniakalnych/Hipomaniakalnych (alfa Cronbacha 0,89). Dane analizowano współczynnikiem korelacji rho Spearmana oraz testem różnic *U* Manna–Whitneya. **Wyniki:** Badania wykazały związek między fazą maniakalną/hipomaniakalną a spadkiem dysfunkcji w obszarze orgazmu oraz związek między częstotliwością spożywania alkoholu a podejmowaniem zachowań homoseksualnych. Kobiety cierpiące na chorobę afektywną dwubiegunową częściej podejmowały zachowania ryzykowne niż grupa kontrolna, a także wykazywały wyższe wskaźniki dysfunkcji obszarów pożądania i podniecenia oraz wyższe ogólne wskaźniki dysfunkcji seksualnych. **Wnioski:** Istnieje konieczność ciągłych badań w tym zakresie tematycznym, aby rozwijać obszar symptomatologii seksualnej w chorobie afektywnej dwubiegunowej w odniesieniu do aktualnych norm seksualnych, kulturowych i płciowych.

Słowa kluczowe: choroba afektywna dwubiegunowa, seksualność, epizody maniakalne, epizody hipomaniakalne, wczesna dorosłość

BACKGROUND

Bipolar disorder (BD) has recently become a subject of wider public interest. The disorder is not only a medical problem, but also a social and economic one, affecting both the sufferers and those closest to them. According to Grande et al. (2016), more than 1% of the world's population suffers from BD, regardless of nationality, ethnicity or socioeconomic status. Colom and Vieta (2009), on the other hand, indicate that the prevalence of BD is about 4% in the population, and if atypical forms are included, even 6.5% of the population. According to Jarema (2018), the risk of developing BD type I (with manic states) concerns 1–2% of the population, and when all affective disorders are included, it will amount to approx. 3–5%. Manic phases are characterised by an increase in mood completely inadequate to the situation and circumstances. Very good mood is accompanied by an increased energy level, which is a source of excessive activity, multitalking, and decreased need for sleep. Inhibitions in interpersonal contacts are lifted, and difficulties in maintaining attention and considerable absent-mindedness are manifested. Self-esteem is significantly inflated, and grandiose delusions and overly optimistic judgments occur (World Health Organization, 2019). The most common symptoms occurring during manic episodes include hyperactivity, physical hyperactivity and agitation, decreased need for sleep, hypersexuality and/or extraversion (Bilikiewicz, 2011).

Despite the lack of uniformity in the diagnosis of bipolar disorder and the lack of a formal definition of hypersexuality, the literature indicates an increased frequency of risky sexual behaviour in patients with bipolar disorder during manic episodes compared to patients with other psychiatric diagnoses (Kopeykina et al., 2016). Impulsivity is a feature of manic behaviour that may involve risk taking. Not considering the consequences of one's actions can pose a risk to the sexual health of individuals with bipolar disorder, as sexual risk taking can result in sexually transmitted diseases (Moeller et al., 2001).

It should be noted that the tools measuring sexual behaviour during manic/hypomanic phases are scarce. Tools available on bipolar disorder include the M-D Scale (M-DS), which is a tool designed to assess the characteristics of BD (Plutchik et al., 1970). The Self-Report Manic Inventory (SRMI) is a 47-item instrument consisting of statements that are answered true/false (Bräunig et al., 1996), the Affective Self Rating Scale (ASRS) consists of nine items relating to mania and nine items relating to depression (Adler et al., 2008), the Altman Self-Rating Mania Scale (ASRM) consists of 13 items, and the statements describe increasing manic symptoms/behaviours (Altman et al., 1997). The proposed manic/hypomanic phases tool goes beyond overtly observed or realised behaviours by also focusing on fantasies and changing desires, which may increase without a concomitant increase in behaviour. Therefore, a self-administered questionnaire was created to determine how manic/hypomanic phases shape women's sexual lives in early adulthood.

A review of the literature shows that there is a lack of research on female sexuality in BD.

AIM OF THE STUDY

The purpose of this study is to find out the relationship between manic/hypomanic phases in BD and sexual functioning in women in early adulthood in the area of sexual dysfunction and alcohol consumption. Another goal is to compare a group of women suffering from BD with a control group in terms of engaging in risky sexual behaviour and sexual dysfunction.

MATERIALS AND METHODS

The study involved 590 women aged 19–40 years (M = 25.4; standard deviation, SD = 4.65). The group of healthy women (n = 538) ranged in age from 20 to 40 years (M = 25.03; SD = 4.31). The group of ill women (n = 52) was between 19 and 40 years old (M = 29.23; SD = 6.09). The study group was selected based on Trempała's (2016) definition of early adulthood. Frequency analysis was performed within three groups of variables – sociodemographic and behavioural for both groups, and clinical in the group of women with BD. The criteria for inclusion in the group of patients were adult age and the declaration of BD (Tab. 1).

The relevant study was conducted using a Google questionnaire made available in the online space. The essential technique of data collection was a self-completed questionnaire by the respondent, which had an individual form. First, the respondents were informed about the purpose and voluntariness of participation in the study, then they were invited to fill in the questionnaire, and the survey procedure ended with credits. The survey was made available in the online space (on support groups for people with BD – Facebook, and on profiles dealing with providing psychological support to people with BD – Instagram) from 02.12 to 31.12.2020 for the research group, and from 05.11 to 07.12.2020 for the control group. In the CAWI (Computer Assisted Web Interview) survey for both groups, each person gave consent which was written to participate in the study, and was assured of full confidentiality and anonymity of the data provided. Participants had the option to withdraw from participation at any time if they felt uncomfortable. They were not paid for taking part in the study. In case of doubts or questions as to the results of the research, the study description included an e-mail address for correspondence.

The statistical analyses used descriptive statistics – internal consistency, percentages, means, mean ranks, and standard deviations were calculated. Rho-Spearman correlations were used due to the lack of normal distribution. Group differences were counted using the Mann–Whitney U test of differences; in view of the discrepancy in the number of groups a non-parametric test was chosen. For measuring self-reported

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Variable	Values	Suffering from bipolar disorder		Healthy	
		n	%	*n*	%
Education	Primary	2	3.85	1	0.19
	Middle school	3	5.77	6	1.12
	Vocational	1	1.92	13	2.42
	Secondary school	20	38.46	278	51.67
	Higher	26	50	240	44.61
Place of residence	Rural areas	10	19.23	81	15.06
	City up to 50,000 inhabitants	4	7.69	89	16.54
	City 50,000 to 100,000	9	17.31	60	11.15
	City 100,000 to 200,000	3	5.77	59	10.97
	City 200,000 to 500,000	7	13.46	79	14.68
	City 500,000 to 1 million	7	13.46	97	18.03
Relationship status	Not in a relationship	8	15.38	66	12.27
	Miss	4	7.69	36	6.69
	Partnership without cohabitation	12	23.08	172	31.97
	Cohabitation partnership	19	36.54	208	38.66
	Marriage	9	17.31	50	9.29
	Other[a]	0	0	6	1.14
Relationship	With a man	37	71.15	428	79.55
	With a woman	3	5.77	11	2.04
	With a man and a woman	0	0	5	0.93
Professional work	No	25	48.08	271	50.37
	Yes	27	51.92	267	49.63
Attitude towards religion	Non-believer	27	51.92	214	39.78
	Religious seeker	6	11.54	53	9.85
	Believer and non-practitioner	16	30.77	192	35.69
	Believer and practitioner	3	5.77	72	13.38
	Non-believer and practitioner	0	0	7	1.3
Satisfaction with life	Very bad	5	9.62	5	0.93
	Rather bad	5	9.62	27	5.02
	Neither good nor bad	14	26.92	112	20.82
	Rather good	24	46.15	322	59.85
	Very good	4	7.69	72	13.38
Satisfaction with sex life	Very bad	4	7.69	6	1.12
	Rather bad	5	9.62	34	6.32
	Neither good nor bad	14	26.92	115	21.38
	Rather good	14	26.92	231	42.94
	Very good	15	28.85	152	28.25

[a] Other: Engagement; Polyamorous relationship with cohabitation; Polyamorous relationship with a woman and a non-binary person; Informal relationship with cohabitation; Friends with benefits; Separated.
n – number of observations, **%** – percentage of observations.

Tab. 1. Frequency analysis of sociodemographic variables for the whole group and in the division into groups of healthy women and women with bipolar disorder

tools Cronbach's alpha and correlation with total score were used, the generalised least squares method was also employed. The results of the study were stored using the Google Forms website as Excel sheets, which were then opened using SPSS.

The study used the Female Sexual Function Index, which is a validated self-report tool that provides information on sexual dysfunction. It consists of 19 items, and its purpose is to self-assess sexual functioning over the past four weeks. This tool can differentiate sexual dysfunction in the areas of desire, arousal, reaching orgasm, lubrication, experiencing sexual satisfaction, and pain complaints. The overall test-retest reliability coefficients are high for each individual domain (r = 0.79 to 0.86) and a high degree of internal consistency is found, with Cronbach's alpha values of 0.82 and above. The Polish adaptation of the test was made by Nowosielski et al. (2013).

Cronbach's alpha	Item	Correlation with total score	Alpha after removal
0.7	1. Receive money, gifts for sexual/erotic behaviour	0.43	0.68
	2. Give money, gifts for sexual/erotic behaviour	0.23	0.69
	3. Puncture or cut during intercourse (yourself or others)	0.30	0.69
	4. Have sex in public places (e.g. cinema, park)	0.51	0.69
	5. Engage in intercourse with an adventurous sexual partner with a condom	0.73	0.63
	6. Engage in intercourse with an adventurous partner without a condom	0.66	0.64
	7. Engage in sexual contact under the influence of alcohol, drugs or other psychoactive substances	0.50	0.68
	8. Have oral sex with an adventurous partner	0.73	0.62
	9. Have anal sex with an adventurous partner without a condom	0.46	0.67
	10. Have anal sex with an adventurous partner with a condom	0.50	0.67
	11. Engage in sexual contact in any form without the consent of the partner/partner	0.20	0.70
	12. Engage in sexual contact with a family member with blood ties	0.16	0.70
	13. Engage in sexual contact with a family member in the absence of blood ties	0.16	0.70
Annotation. Analyses performed for the number of observations $N = 590$.			

Tab. S1. Summary of reliability analysis of the sexual risk behaviour tool

Scale of the tool	Cronbach's alpha	Item	Correlation with overall scale score	Correlation with overall tool score
Increased sexual desire and the pursuit of it	0.93	1	0.96	0.79
		2	0.97	0.85
Sexual fantasies	0.82	3	0.92	0.88
		4	0.91	0.75
Change of desires	0.84	5	0.94	0.86
		6	0.92	0.78
Homosexual contacts	-	7	-	0.46
Annotation. Analyses performed for the number of observations $n = 52$. The reliability score with Cronbach's alpha index for the whole tool was $\alpha = 0.89$.				

Tab. S2. Summary of reliability analysis of the manic phase behaviour scale tool

In addition, two self-administered tools were developed, including the Questionnaire of Sexual Risk Behaviour (Cronbach's alpha 0.7, presented in Tab. S1) and the Questionnaire of Manic/Hypomanic Phases (Cronbach's alpha 0.89, presented in Tab. 2S), which are described in detail in the Appendix.

RESULTS

The first research question addressed the correlations between sexual dysfunctions and behavioural scales during manic phases (Tab. 2).

Sexual dysfunctions	Behavioural scales in manic/hypomanic phases				
	Increased sexual desire	Sexual fantasies	Changing desires	Homosexual contacts	Overall score
	r_s	r_s	r_s	r_s	r_s
Desire	0.22	0.09	–0.07	0.09	0.08
Arousal	**0.3***	0.15	0.11	0.11	0.22
Lubrication	0.08	–0.04	0.09	0.18	0.09
Orgasm	**0.28***	0.21	0.22	0.05	**0.28***
Sexual satisfaction	0.08	0.07	0.06	0.17	0.12
Pain complaints	0.23	0.03	0.07	–0.07	0.07
Overall score	0.25	0.11	0.08	0.13	0.18
Annotation. Analyses performed for the number of observations $n = 52$. r_s – Spearman rank correlation coefficient. * $p < 0.05$.					

Tab. 2. Summary of Spearman's rho coefficient correlation analysis of sexual dysfunction (according to Female Sexual Function Index) with behavioural scales during manic/hypomanic phases in the group of women with BD

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Behaviour during manic/hypomanic phases	Alcohol consumption	
	r_s	p
Increased sexual desire	0.08	0.575
Sexual fantasies	0.04	0.803
Changing desires	0.1	0.475
Homosexual contacts[a]	**0.41**	**0.011**
Overall score	0.18	0.201

Annotation. Analyses performed for the number of observations $n = 52$.
[a] Analysis in the group of heterosexual women $n = 37$.
r_s – Spearman rank correlation coefficient; p – significance level.

Tab. 3. Summary of Spearman's rho coefficient correlation analysis of frequency of alcohol consumption with behavioural scales during manic/hypomanic phases in the group of women with BD

Variable to be tested	Suffering from bipolar disorder $n = 52$		Healthy $n = 538$		U	p	r_g
	M_{rang}	Me	M_{rang}	Me			
Engaging in risky sexual behaviour	407.3	4	284.69	2	**5.025**	**<0.001**	**0.42**

M_{rang} – rank mean; Me – median, U – Mann–Whitney test value; p – significance level; r_g – effect strength.

Tab. 4. Summary of the analysis of differences by Mann–Whitney U *test of engaging in risky sexual behaviours between healthy women and women with BD*

Sexual dysfunctions	Suffering from bipolar disorder $n = 52$		Healthy $n = 538$		U	p	r_g
	M_{rang}	Me	M_{rang}	Me			
Desire	218.45	4.2	302.95	4.8	**−3.487**	**<0.001**	**0.29**
Arousal	251.37	4.8	299.77	5.1	**−1.970**	**0.049**	**0.16**
Lubrication	272.82	5.4	297.69	5.7	−1.033	0.302	0.08
Orgasm	271.88	4.4	297.78	4.8	−1.052	0.293	0.09
Sexual satisfaction	255.28	4.8	299.39	5.2	−1.802	0.072	0.15
Pain complaints	313.65	5.2	293.75	4.8	0.816	0.414	0.07
Overall score	249.71	28.5	299.93	29.5	**−2.028**	**0.043**	**0.17**

M_{rang} – rank mean; Me – median; U – Mann–Whitney test value; p – significance level; r_g – effect strength.

Tab. 5. Summary of analysis of differences by Mann–Whitney U *test of sexual dysfunction (according to Female Sexual Function Index) between healthy women and women with BD*

The analyses found positive and weak associations of orgasm with increased sexual desire ($r_s = 0.28$; $p < 0.05$) and the total score of behaviours in the manic phase ($r_s = 0.28$; $p < 0.05$). An increase in indicated behaviours in the manic phase is associated with an increase in scores for the orgasm scale, which should be interpreted as a decrease in sexual dysfunction in this area. A similarly weak and positive relationship is seen between arousal and increased sexual desire ($r_s = 0.3$; $p < 0.05$). An increase in such behaviour during the manic phase is associated with a decrease in dysfunction in the area of arousal in women with BD. The remaining associations were found to be insignificant.

The second research question focused on the associations between alcohol frequency and manic phase behaviours in the group of women with BD (Tab. 3).

The results showed that the frequency of alcohol consumption did not correlate significantly with most of the behavioural scales in the phases of mania. Only a moderate and positive relationship was found between alcohol consumption and homosexual contacts ($r_s = 0.41$; $p = 0.011$) in a group of heterosexual women with BD.

The analysis showed that women with BD ($M_{rang} = 407.3$; $Me = 4$) compared to healthy women ($M_{rang} = 284.69$; $Me = 2$) had significantly higher scores of engaging in risky sexual behaviour, $U = 5.025$; $p < 0.001$, $r_g = 0.42$. The strength of the effect is moderate (Tab. 4).

The next research question focused on differences in the levels of sexual dysfunction between women with BD and healthy women (Tab. 5).

The results showed that healthy women have significantly higher scores for the desire and arousal scales. They also show higher scores for the general level of sexual dysfunctions. The conclusion of the analysis may, therefore, be interpreted as higher dysfunctions of the areas of desire and

arousal in the group of women suffering from BD, and higher general sexual dysfunctions. The strength of the effect of the indicated relations should be regarded as weak.

DISCUSSION

The results of our study indicate associations between behaviours during manic/hypomanic phases and a decrease in dysfunction in the area of orgasm. An association was found between alcohol consumption and engaging in homosexual contacts among women with BD. Compared to the control group, women with BD were characterised by more sexual dysfunctions and more risky sexual behaviours. Moreover, the added value of the study is the testing of new tools.

Patients with BD scored lower on the quality of life (QoL) scale, comprising, among other things, general well-being and observed satisfaction with physical and mental health, education, employment, wealth, finances, environment, social relationships, and sexual function, compared to the general population (Nørholm, 2008). Our own research supports these results by indicating that 19.24% of BD sufferers described their life satisfaction as very bad or rather bad, compared to 5.95% of women in the control group.

Individuals with BD are prone to risky sexual behaviour. In a study by Obo et al. (2019) nearly half of patients with BD reported risky sexual behaviour. A comparative study in the US found that patients with mood disorders reported more frequent sexual intercourse, higher frequency of unprotected sex, higher history of sexually transmitted diseases and more sexual partners (Carey et al., 2004). The analysis of our own research showed that women suffering from BD compared to healthy women had significantly higher scores of engaging in risky sexual behaviours.

Downey et al. (2016) examined the sexual behaviours over the past year in 32 outpatients with BD who were compared with 44 patients who had never had an episode of the disorder. It was reported that 34% of patients with BD and 45.5% of patients in the control group had only heterosexual fantasies. The percentages of those with homosexual identities were about the same for both groups. Our own research has shown that the frequency of alcohol consumption does not correlate significantly with most of the behavioural scales in phases of mania and shows only a moderate and positive relationship between alcohol consumption and homosexual contacts in a group of heterosexual women with BD. However, alcohol did not significantly affect other dimensions of the manic/hypomanic behaviour scale, which may lead to the conclusion that alcohol is less of a determinant of sexual behaviour during manic/hypomanic phases.

STUDY LIMITATION

Own study was associated with certain limitations. It should be noted that the COVID-19 pandemic made it impossible to reach the wards of psychiatric hospitals, thus forcing the survey to be conducted in the Internet space, as well as relying on the declarativeness of the respondents in the context of the diagnosed disorder. Undoubtedly, the responses were affected by the current condition of the respondents (remission, depression, mania/hypomania). Moreover, access to standardised instruments to examine BD sufferers is difficult. When planning the study, an atypical (but nevertheless accepted in epidemiological studies) research design was adopted, in which the control group is ten times larger than the test group.

CONCLUSIONS

Patients with BD face unique challenges when it comes to their sexuality, compared to both other psychiatric patients and healthy adults. Given the rapidly changing social sexual norms, this paper highlights the need for new, updated, and culturally sensitive research on the relationship between sexuality and BD.

Conflict of interest

The author does not declare any financial or personal links to other persons or organisations that could adversely affect the content of this publication or claim rights thereto.

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