Erectile Dysfunction in Euthymic Patients with Bipolar Disorder

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Abstract

Background

Bipolar disorder (BD) affects ~1% of the global population, yet erectile dysfunction (ED) during euthymia remains poorly understood, particularly in Nepal, where cultural taboos suppress discussion of sexual health. This study aimed to identify clinical and socio-demographic correlates of ED among euthymic male patients with bipolar disorder.

Material and methods

We conducted a cross-sectional study at Mental Hospital, Lagankhel, Nepal, recruiting 185 euthymic males of age 18-60 years through outpatients via convenience sampling. Euthymia was confirmed using Young's Mania Rating Scale <5 and Hamilton Depression Rating Scale <8. Erectile function was assessed with the abridged IIEF-5; scores ≤21 indicated ED. Data were analyzed using SPSS v29 with descriptive statistics and Spearman's correlation.

Results

Mean age of participants was 36.48±11.42 years. ED was present in 68.1% of the participants: mild (23.8%), mild-moderate (20%), moderate (7.6%), and severe (16.8%). Significant correlates included older age ($r = -0.47$, < 0.001), longer illness duration ($r = -0.37$, $p < 0.01$) and married participants ($p = 0.007$). Residence, occupation, religion, socioeconomic status, education and substance use showed no significant correlation. Among the various medication combinations, patients on mood stabilizers plus antidepressants showed the highest ED rate (80%).

Conclusion

ED is highly common in euthymic bipolar men and linked to age, illness duration, and antidepressant use. Findings support integrating routine, culturally sensitive sexual health screening into psychiatric care to improve holistic outcomes.

Keywords

Bipolar disorder; Erectile dysfunction; Euthymia

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INTRODUCTION

Bipolar Disorder (BD) affects 1% of the global population, marked by mood episodes.[8] Euthymia represents a clinically stable phase without significant mood symptoms.[9] However, up to 40% of euthymic patients experience residual cognitive deficits and sexual dysfunction, including erectile dysfunction (ED), impacting quality of life and treatment adherence.[10] Normal sexual function comprises five domains and the severity of ED is assessed by the International Index of Erectile Function (IIEF).[1,2] ED affects 3% to 76.5% of men globally, rising with age and comorbidities.[3,7] In Nepal, ED prevalence ranges from 33.3% to 38.4% among psychiatric patients and surgical populations.[4,5,6]

Large-scale evidence demonstrates men with BD have a 1.95-fold higher ED risk than the general population, even after adjusting for comorbid vascular conditions, persisting even without psychotropic medications, suggesting the disorder itself contributes to dysfunction.[21] Regarding medication, 37% on lithium[12] and 28.6% on valproate monotherapy[14] experience clinically significant sexual dysfunction. Unfortunately, most patients do not spontaneously disclose these symptoms, leading to underreporting and compromised long-term treatment outcomes.[14,12]

In Nepal, mental health awareness is low, and sexual health is rarely discussed. Crucially, no previous studies have examined ED rates and correlates in BD within Nepal, despite substantially affecting quality of life.[11,4] Limited health literacy hinders open discussions, causing ED to remain neglected in clinical practice. Understanding the multifactorial etiology, including demographic and clinical variables, is essential to improve treatment compliance. To

address this gap, the study aimed to identify ED and associated sociodemographic and clinical variables in euthymic male patients with bipolar disorder through a tertiary psychiatry hospital-based cross-sectional study.

MATERIAL AND METHODS

This cross-sectional study was conducted over six months (February 2024 to August 2024) at the Adult Psychiatry Outpatient Department (OPD) of Mental Hospital Lagankhel, Nepal. We enrolled 185 male patients aged 18–60 years diagnosed with bipolar disorder (BD) by consultant psychiatrists, selected via convenience sampling. Inclusion criteria required patients to be in remission, defined as Young's Mania Rating Scale (YMRS) score <5 and Hamilton Depression Rating Scale (HAM-D) score <8,[9] with no psychiatric hospitalization within two months. Exclusion criteria comprised comorbid medical conditions potentially contributing to erectile dysfunction (ED), other psychiatric comorbidities (except substance dependence), or medications affecting sexual function.

Sociodemographic and clinical data were gathered using a semi-structured proforma. The YMRS is an 11-item clinician-administered scale developed by Young et al. (1978) [23], comprising seven standard items and four double-weighted items, yielding a maximum total score of 60. While no formal published Nepali translation exists, the English version is routinely used by Nepalese clinicians and considered reliable in local research. The scale has demonstrated validity for assessing manic symptoms in countries sharing Nepal's sociodemographic profile, such as Thailand and Bangladesh.[24, 25] A YMRS score <5 was taken as indicative of euthymia.[9]

Depression severity was assessed using the 17-item Hamilton Depression Rating Scale (HAM-D-17).[26] This clinician-administered interview evaluates symptoms including depressed mood, guilt, and insomnia, with items scored on either a 0–4 or 0–2 scale. Total scores are interpreted as: 0–7 (remission), 8–13 (mild), 14–18 (moderate), 19–22 (severe), ≥23 (very severe).[26] The HAM-D demonstrates strong global psychometric properties [26] and has been successfully implemented across multiple Nepalese clinical contexts including migrant workers, antenatal settings, and tertiary psychiatric care, supporting cross-cultural validity for depression assessment in Nepal.[27,28,29] A HAM-D score <8 defined euthymia.[9]

Erectile function was assessed via the abridged 5-item International Index of Erectile Function (IIEF-5) [30], a self-administered questionnaire which can be administered by a clinician particularly in a population with literacy constrains [33] with a score range of 5–25. Interpretation: 5–7 (severe ED), 8–11 (moderate), 12–16 (mild-moderate), 17–21 (mild), 22–25 (no ED); ≤21 is the widely used diagnostic cut-off for ED.[30] While formal psychometric validation in Nepal is unpublished, the IIEF-5 is successfully implemented in Nepalese clinical research.

Data were collected by the researcher and a fellow resident doctor during a single outpatient session. Inter-rater reliability was not calculated, as acknowledged in study limitations. Written informed consent was obtained from all participants prior to enrollment. All data were anonymized and stored securely. Ethical approval was granted by the Institutional Review Board (IRB) of the National Academy of Medical Sciences (NAMS) on 6th December 2023 (Reference: 1233/2080/81). Data analysis was performed using Statistical Package for the Social Sciences (SPSS) version 29.

RESULTS

Among 185 euthymic male bipolar disorder patients (mean age 36.48±11.42 years), most were married (76.8%), urban residents (67.0%), with secondary education (45.4%). Mean illness duration was 11.34±9.74 years; 55.1% reported substance use, and 90.8% received polypharmacy, predominantly mood stabilizer–antipsychotic combinations (82.7%). Erectile dysfunction (ED) affected 68.1% of participants (mild to severe), with a mean IIEF-5 score of 16.38±6.78. ED rates differed significantly by marital status ($p=0.007$), education ($p=0.019$), and age ($p<0.001$), but not by residence, occupation, religion, socioeconomic status, or substance use. Although antidepressant-containing regimens showed the highest ED rate (80.0%), medication group differences were non-significant ($p=0.76$). Spearman's rho analysis revealed that IIEF-5 scores correlated negatively with age ($r=-0.470$, $p<0.001$) and total duration of illness ($r=-0.374$, $p<0.001$), but showed no significant association with the number of episodes or age of onset. Age-stratified analysis revealed ED rates increased with advancing age, from 44.4% (20–29 years) to 100% (≥60 years), highlighting age and illness chronicity as key correlates of sexual dysfunction in this population.

Table 1: Sociodemographic Characteristics and Association with Erectile Dysfunction (N=185)

Variable	Category	Total n (%)	No ED n (%)	ED Present n (%)	p-value
Age Group	18–19	4 (2.2%)	2 (50.0%)	2 (50.0%)	<0.001
	20–29	63 (34.1%)	35 (55.6%)	28 (44.4%)	
	30–39	45 (24.3%)	6 (13.3%)	39 (86.7%)	
	40–49	41 (22.2%)	11 (26.8%)	30 (73.2%)	
	50–59	30 (16.2%)	5 (16.7%)	25 (83.3%)	
	≥60	2 (1.0%)	0 (0%)	2 (100%)	
Marital Status	Married	142 (76.8%)	38 (26.8%)	104 (73.2%)	0.007
	Single/ Divorced	43 (23.2%)	21 (48.8%)	22 (51.2%)	
Residence	Urban	124 (67.0%)	38 (30.6%)	86 (69.4%)	0.604
	Rural	61 (33.0%)	21 (34.4%)	40 (65.6%)	
Education Level	Primary & below	36 (19.5%)	7 (19.4%)	29 (80.6%)	0.019
	Secondary/ Higher Secondary	120 (64.9%)	37 (30.8%)	83 (69.2%)	
	Undergraduate & above	29 (15.7%)	15 (51.7%)	14 (48.3%)	
Occupation	Employed	125 (67.6%)	38 (30.4%)	87 (69.6%)	0.530
	Unemployed	60 (32.4%)	21 (35.0%)	39 (65.0%)	
Religion	Hindu	136 (73.5%)	39 (28.6%)	97 (71.4%)	0.118
	Other	49 (26.5%)	20 (40.8%)	29 (59.2%)	
Socioeconomic Status	Upper class	40 (21.6%)	17 (42.5%)	23 (57.5%)	0.104
	Lower class	145 (78.4%)	42 (28.9%)	103 (71.1%)	

Note: ED defined as IIEF-5 score ≤21; p-values from Chi-square/Fisher's exact test

Table 2: Clinical Characteristics and Association with Erectile Dysfunction (N=185)

Variable	Category	Total n (%)	No ED n (%)	ED Present n (%)	p-value
Substance Use History	Present	102 (55.1%)	33 (32.4%)	69 (67.6%)	0.881
	Absent	83 (44.9%)	26 (31.3%)	57 (68.7%)	
Family Psychiatric History	Present	62 (33.5%)	19 (30.6%)	43 (69.4%)	0.796
	Absent	123 (66.5%)	40 (32.5%)	83 (67.5%)	
Medication Count	Single	17 (9.2%)	5 (29.4%)	12 (70.6%)	0.818
	Multiple	168 (90.8%)	54 (32.1%)	114 (67.9%)	
Medication Group	MA/MMA	153 (82.7%)	51 (33.3%)	102 (66.7%)	0.760
	MAD/MD/AD	15 (8.1%)	3 (20.0%)	12 (80.0%)	
	M alone	7 (3.8%)	2 (28.6%)	5 (71.4%)	
	A alone	10 (5.4%)	3 (30.0%)	7 (70.0%)	
Illness Duration	<10 years	102 (55.4%)	—	—	r = −0.374, p < 0.001
	≥10 years	83 (44.6%)	—	—	
Age of BD Onset	Mean ± SD	24.8±8.46 yrs	—	—	r = −0.225, p = 0.002
Number of Episodes	Mean ± SD	3.08 ± 2.64	—	—	r = −0.128, p = 0.083

Abbreviations:
MA/MMA = Mood stabilizers + Antipsychotics (single or dual combinations)
MAD/MD/AD = Combinations including antidepressants (Mood stabilizer+Antipsychotic+Antidepressant/Mood stabilizer+Antidepressant/ Antipsychotic+Antidepressant)
M= Mood stabilizers alone
A= Antipsychotics alone

Figure 1: Correlation between age and IIEF scores

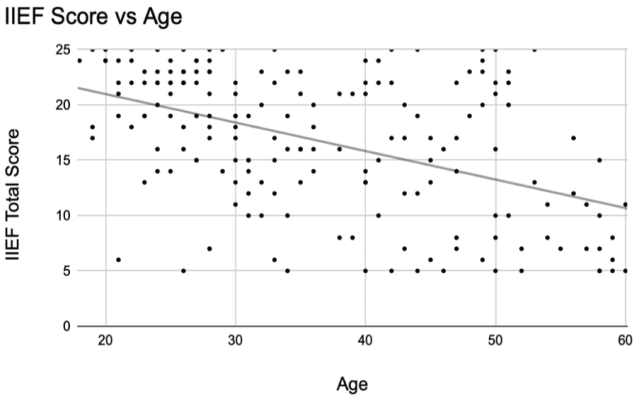
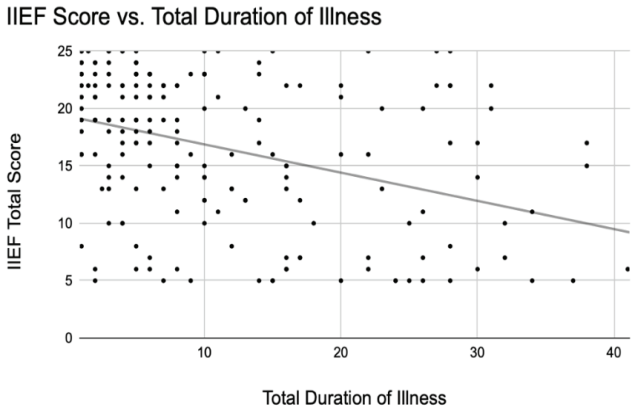


Figure 2: Correlation between IIEF scores and Total Duration of Illness



IIEF: International Index for Erectile function
Lower IIEF scores: Greater ED severity

Figure 3: Distribution of Erectile dysfunction severity among the participants

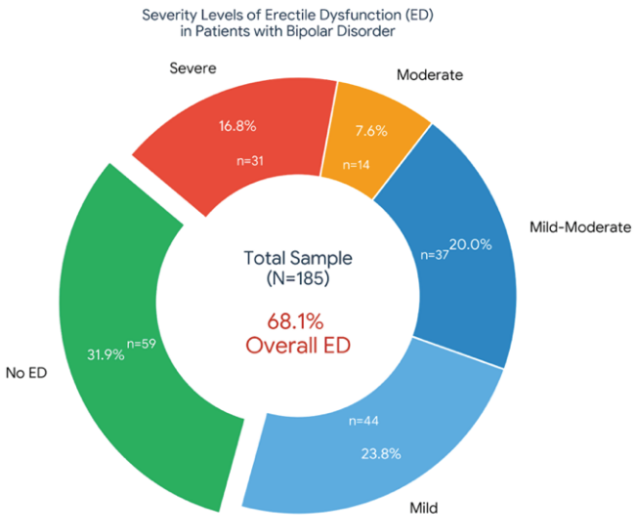
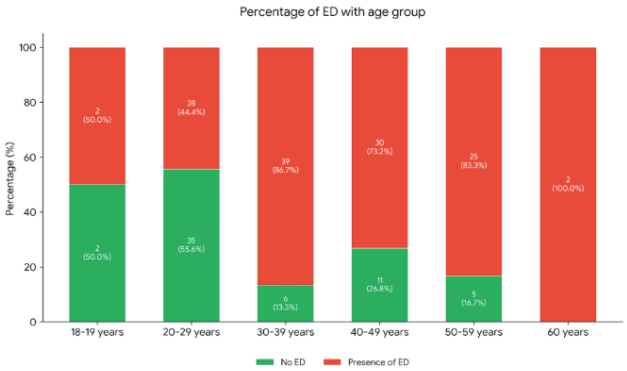


Figure 4: Distribution of Erectile Dysfunction Across Age Groups among the participants



DISCUSSION

This study represents the pioneering effort in Nepal to investigate erectile dysfunction (ED) and its associated factors among men in the euthymic phase of bipolar disorder (BD). The primary objective was to identify clinical and socio-demographic correlates of ED in this specific population. The main finding reveals a high number of participants with ED (68.1%) even during periods of mood stability. This is particularly important because it highlights that sexual dysfunction persists beyond acute mood episodes, addressing a neglected area of patient care often overshadowed by cultural taboos surrounding sexual health in Nepal. By focusing on euthymia, defined by strict YMRS and HAM-D cutoffs, this study isolates the chronic burden of the illness and treatment from acute mood symptoms, offering a clearer picture of residual dysfunction.

The rate of ED among the participants aligns with global ranges for BD but exceeds general population estimates for similar age groups. International literature suggests men with BD have a 1.95-fold higher risk of ED compared to the general population. Our findings support this, indicating that the disorder itself, alongside treatment factors, contributes to sexual dysfunction. Unlike some studies focusing on acute phases, our focus on euthymia isolates the chronic burden of the illness. However, severity patterns differed slightly from general population studies, with a larger proportion experiencing mild to moderate ED rather than severe cases. This difference may be attributed to our exclusion criteria, which removed patients with severe medical comorbidities like diabetes or cardiovascular disease, thereby isolating psychiatric factors.

Significant correlates included older age, longer illness duration, and lower education levels. The strong inverse correlation between age and erectile function ($r = -0.47$) mirrors global trends of age-related decline. The association with lower education suggests health literacy plays a crucial role; we speculate that individuals with less education may struggle to understand medication side effects, manage lifestyle risks, or seek early intervention for comorbidities. Interestingly, while employment and urban residency showed slightly higher ED, these differences were modest. Higher rates among urban participants may be because of increased reporting as they are more forthcoming due to reduced stigma, or it may be because of more sedentary lifestyles, which were not directly assessed. Conversely, substance use history showed no significant association, likely due to heterogeneous substance types and dosages among participants.

Regarding treatment, patients on mood stabilizers plus antidepressants showed the highest ED rate (80%), consistent with literature identifying SSRIs as significant contributors to sexual dysfunction. Although statistical significance was not reached across medication groups ($p = 0.76$), likely due to small subgroup sizes, the clinical trend underscores the potential sexual side effects of psychotropics. This suggests that while mood stabilizers are essential, adjunctive antidepressant use warrants careful monitoring regarding sexual health.

Possible biases must be considered when interpreting these results. Convenience sampling from a single tertiary center may introduce selection bias, as participants were predominantly lower socioeconomic status patients seeking government care. Potential underreporting due to cultural stigma is a significant concern; in Nepal, sexual health is rarely discussed, and patients may feel shame admitting to ED. This could lead to an underestimation of the true prevalence. Furthermore, the lack of formally validated Nepali translations for assessment tools may affect data accuracy, although interviewer administration helped mitigate literacy constraints.

These findings have critical policy and practice implications. Given the high burden of ED, routine, culturally sensitive sexual health screening should be integrated into psychiatric follow-ups to improve holistic outcomes and treatment adherence. Clinicians must proactively discuss sexual side effects, as patients rarely disclose them spontaneously due to stigma. Addressing ED is not only about sexual health but

also cardiovascular and metabolic risk management. The association with education levels suggests that psychoeducation programs should be tailored to patients with lower health literacy to empower them in managing side effects. Future research should employ longitudinal designs to track ED progression over time and incorporate broader variables like hormonal profiles and relationship satisfaction. Expanding studies to diverse populations and including control groups will strengthen the understanding of ED etiology in BD, ultimately guiding better management strategies for this vulnerable group.

STRENGTHS AND LIMITATIONS

The study's primary strength lies in its pioneering focus on ED in Nepalese men with BD during euthymia, conducted at Nepal's only tertiary psychiatric hospital. It specifically assesses the erectile function domain, an area virtually unexplored in Nepal, and systematically examines multiple demographic and clinical correlates using standardized tools (IIEF-5, YMRS, HAM-D). However, limitations include its cross-sectional design, convenience sampling from a single outpatient setting, and lack of a control group. Key confounders were omitted, including BMI, hormonal profiles, physical activity, and medication dosages. Additionally, inter-rater reliability was not assessed, and there was a lack of formally validated Nepali translations for the assessment tools. Potential underreporting due to cultural stigma also limits broader generalizability.

CONCLUSION

This study highlights a significant burden of erectile dysfunction among euthymic men with BD, with age, illness duration, and education level emerging as key correlates. While medication regimens did not reach statistical significance, clinical trends suggest a higher prevalence among those on antidepressant-containing therapies. Despite remission in mood symptoms, sexual dysfunction persists, emphasizing the need for holistic management that includes sexual health discussions during psychiatric follow-ups. Future studies should incorporate broader variables, longitudinal designs, and diverse populations to strengthen the understanding and address ED more effectively in this vulnerable group.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

References

1. Rosen, R. C., Riley, A., Wagner, G., Osterloh, I. H., Kirkpatrick, J., & Mishra, A. (1997). The International Index of Erectile Function (IIEF): A multidimensional scale for assessment of erectile dysfunction. Urology, 49(6), 822–830. doi: https://doi.org/10.1016/S0090-4295(97)00238-0
2. Yafi, F. A., Jenkins, L., Albersen, M., Corona, G., Isidori, A. M., Goldfarb, S., Maggi, M., Nelson, C. J., Parish, S., Salonia, A., Tan, R., Ugur, M., & Hellstrom, W. J. (2016). Erectile dysfunction. Nature Reviews Disease Primers, 2, 16003. doi: https://doi.org/10.1038/nrdp.2016.3
3. Kessler, A., Sollie, S., Challacombe, B., Briggs, K., & Van Hemelrijck, M. (2019). The global prevalence of erectile dysfunction: A review. BJU International, 124(4), 587–599. doi: https://doi.org/10.1111/bju.14742
4. Poudel, R. (2021). Psychosocial profile of subjects presenting with sexual dysfunctions in psychiatry outpatient department of a teaching hospital in Nepal. Journal of Psychiatric Association of Nepal, 10(1), 72–75. doi: https://doi.org/10.3126/jpan.v10i1.42312
5. Shrestha, S., Siwakoti, S., Shakya, U., Shakya, R., & Khadka, S. (2022). Quality of life, anxiety and depression among clients with ostomy attending selected stoma clinics. Quality of Life, 11(3), 1–10. doi: http://103.69.126.140:8080/bitstream/20.500.14356/895/1/3978-Manuscript-29684-1-10-20221103.pdf
6. Pokharel, N., Katwal, G., & Adhikari, S. K. (2019). Incidence of bowel, bladder, and sexual dysfunction following surgery for colorectal malignancy. Journal of Nepal Health Research Council, 17(3), 262–267. doi: https://doi.org/10.33314/jnhrc.v17i3.2133
7. McCabe, M. P., Sharlip, I. D., Atalla, E., Balon, R., Fisher, A. D., Laumann, E., Lee, S. W., Lewis, R., Segraves, R. T., & International Consultation on Sexual Medicine (ICSM) Committee. (2016). Definitions of sexual dysfunctions in women and men: A consensus statement from the Fourth International Consultation on Sexual Medicine 2015. The Journal of Sexual Medicine, 13(2), 135–143. doi: https://doi.org/10.1016/j.jsxm.2015.12.031
8. Chakrabarti, S. (2022). Bipolar disorder in the International Classification of Diseases-Eleventh version: A review of the changes, their basis, and usefulness. World Journal of Psychiatry, 12(12), 1335–1355. doi: https://doi.org/10.5498/wjp.v12.i12.1335
9. Pal, A. (2020). A cross-sectional study of internalized stigma in euthymic patients of bipolar disorder across its predominant polarity. Indian Journal of Social Psychiatry, 36(1), 73–77. doi: https://doi.org/10.4103/ijsp.ijsp_89_19
10. Samalin, L., de Chazeron, I., Vieta, E., Bellivier, F., & Llorca, P. M. (2016). Residual symptoms and specific functional impairments in euthymic patients with bipolar disorder. Bipolar Disorders, 18(2), 164–173. doi: https://doi.org/10.1111/bdi.12376
11. Regmi, P. R., van Teijlingen, E., Simkhada, P., & Acharya, D. R. (2010). Barriers to sexual health services for young people in Nepal. Journal of Health, Population, and Nutrition, 28(6), 619–627. doi: https://doi.org/10.3329/jhpn.v28i6.6613
12. Grover, S., Ghosh, A., Sarkar, S., Chakrabarti, S., & Avasthi, A. (2014). Sexual dysfunction in clinically stable patients with bipolar disorder receiving lithium. Journal of Clinical Psychopharmacology, 34(4), 475–482. doi: https://doi.org/10.1097/JCP.0000000000000145
13. Elkhiat, Y. I., Abo Seif, A. F., Khalil, M. A., Gamal El Din, S. F., & Hassan, N. S. (2018). Sexual functions in male and female patients with bipolar disorder during remission. The Journal of Sexual Medicine, 15(8), 1111–1116. doi: https://doi.org/10.1016/j.jsxm.2018.05.015
14. Grover, S., Mehdi, A., Kumar, A., Chakrabarti, S., & Avasthi, A. (2021). Sexual dysfunction in clinically stable patients with bipolar disorder receiving valproate. Indian Journal of Psychiatry, 63(4), 366–371. doi: https://doi.org/10.4103/psychiatry.IndianJPsychiatry_735_20
15. Ludwig, W., & Phillips, M. (2014). Organic causes of erectile dysfunction in men under 40. Urologia Internationalis, 92(1), 1–6. doi: https://doi.org/10.1159/000354477
16. Hassan, M. R., Samsuri, M. F., Shah, S. A., Safian, N., Zainuddin, Z. M., & Ghazi, H. F. (2017). Prevalence of premature ejaculation and erectile dysfunction and their associated factors among urban and rural population of Malaysia. Malaysian Journal of Public Health Medicine, 17(3), 86–96.
17. García-Blanco, A., García-Portilla, M. P., de la Fuente-Tomás, L., Batalla, M., Sánchez-Autet, M., Arranz, B., Sierra, P., & Bobes, J. (2020). Sexual dysfunction and mood stabilizers in long-term stable patients with bipolar disorder. The Journal of Sexual Medicine, 17(5), 930–940. doi: https://doi.org/10.1016/j.jsxm.2020.02.007
18. Sheibani, M., Ghasemi, M., & Dehpour, A. R. (2022). Lithium and erectile dysfunction: An overview. Cells, 11(1), 171. doi: https://doi.org/10.3390/cells11010171
19. Nagaraj, A. K. M., Nizamie, S. H., Akhtar, S., Sinha, B. N. P., & Goyal, N. (2004). A comparative study of sexual dysfunction due to typical and atypical antipsychotics in remitted bipolar I disorder. Indian Journal of Psychiatry, 46(3), 261–266.
20. Rosen, R. C., Cappelleri, J. C., Smith, M. D., Lipsky, J., & Peña, B. M. (1999). Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. International Journal of Impotence Research, 11(6), 319–326. doi: https://doi.org/10.1038/sj.ijir.3900472
21. Hou, P. H., Mao, F. C., Chang, G. R., Huang, M. W., Wang, Y. T., & Huang, S. S. (2018). Newly diagnosed bipolar disorder and the subsequent risk of erectile dysfunction: A nationwide cohort study. The Journal of Sexual Medicine, 15(2), 183–191. doi: https://doi.org/10.1016/j.jsxm.2017.12.013
22. Nepal, S., Chaudhari, R., & Sapkota, N. (2020). Association of plasma level of lithium with clinical effect in bipolar disorder at a tertiary center in Eastern Nepal. Journal of Psychiatrists' Association of Nepal, 14(2), 45–52. doi: https://doi.org/10.3126/jpan.v14i2.36281
23. Young, R. C., Biggs, J. T., Ziegler, V. E., & Meyer, D. A. (1978). A rating scale for mania: Reliability, validity and sensitivity. British Journal of Psychiatry, 133(5), 429–435. doi: https://doi.org/10.1192/bjp.133.5.429
24. Supornsilchai, V., Watanabe, M., Petpichetchian, W., & Nakamura, K. (2006). Validity and reliability of the Young Mania Rating Scale: Thai version. Psychiatry and Clinical Neurosciences, 60(1), 125. doi: https://doi.org/10.1111/j.1440-1819.2006.01474.x (PMID: 16471108)
25. Hossain, M. M., Sultana, N., & Uddin, M. N. (2019). Psychometric properties of Bangla Young Mania Rating Scale. Malaysian Journal of Psychiatry, 28(2), 34–41. doi: https://journals.lww.com/mjp/abstract/2019/28020/psychometric_properties_of_bangla_young_mania.6.aspx
26. Trajković, G., Starčević, V., Latas, M., Leštović, M., Ille, T., Bukumirić, Z., & Marinković, J. (2011). Reliability of the Hamilton Rating Scale for Depression: A meta-analysis over a period of 49 years. Psychiatry Research, 189(1), 1–9. doi: https://doi.org/10.1016/j.psychres.2010.12.007
27. Adhikari, B. R., Karki, K. K., & Sharma, S. K. (2019). A study on depression in returnee female migrant workers. Journal of BP Koirala Institute of Health Sciences, 3(1), 45–50. doi: https://doi.org/10.3126/jbpkihs.v3i1.30321
28. Shrestha, B. R., Shrestha, S., & Shrestha, M. P. (2008). Depression during pregnancy in a tertiary care center of Eastern Nepal. Nepal Medical College Journal, 10(4), 239–242. (PMID: 19079377)
29. Karki, S., Shrestha, S., & Shrestha, B. R. (2023). Assessment of vitamin D level in depression and its association with severity of depression. Journal of Psychiatrists' Association of Nepal, 14(2), 28–35. doi: https://doi.org/10.3126/jpan.v14i2.86044
30. Tamrakar, D., Karki, P., Maskey, R., & Sharma, S. K. (2021). Pattern of adverse drug reactions and serum level of maintenance lithium treatment in patients with bipolar affective disorder: A cross-sectional study. Journal of Nepal Health Research Council, 19(2), 378–383. doi: https://doi.org/10.33314/jnhrc.v19i2.3394
31. Shakya, D. R., Maskey, R., Karki, P., & Sharma, S. K. (2020). Psycho-sexual disorders in clinic diabetes mellitus patients of a teaching hospital of Eastern Nepal. Journal of Diabetes and Endocrinology Association of Nepal, 4(2), 19–23. doi: https://doi.org/10.3126/jdean.v4i2.34591
32. Tohen, M., Zarate, C. A., Jr., Hennen, J., Khalsa, H. M., Strakowski, S. M., Gebre-Medhin, P., Griffin, M., & Baldessarini, R. J. (2022). Linkage of Young Mania Rating Scale to Clinical Global Impression Scale to enhance utility in clinical practice and research trials. Pharmacopsychiatry, 55(5), 243–249. doi: https://doi.org/10.1055/a-1841-6672
33. Eng JJ, Teasell R, Miller WC, et al. Spinal Cord Injury Rehabilitation Evidence (SCIRE) Professional. International Index of Erectile Function (IIEF). 2020. Available from: https://scireproject.com/