Bipolar affective disorder and its impact on various aspects of marital relationship

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Bipolar disorder (BD) is a severe mental disorder, which not only has negative consequences on the life of the patient, but also affects the immediate family members. As it often starts early in life, patients who get married often suffer from many negative consequences in their marital life due to the illness. This review focuses on studies which have evaluated marital rates, rate of marital failure, divorce, infertility, and procreation among patients with BD. In addition, this review evaluates the existing literature pertaining to marital adjustment, marital satisfaction, sexual dysfunction, and sexual satisfaction among patients with BD and their partners/spouses. Data suggest that very high proportion of patients with BD get married and marital rates are higher for patients with BD, when compared with those suffering from schizophrenia. In terms of divorce rates, studies suggest that patients with BD have higher rates of divorce. In terms of fertility rates, studies suggest that compared to those without the illness, the fertility rates among patients with BD are lower. In terms of marital adjustment, results are mixed with some studies suggesting poorer marital adjustment among patients and their spouses too. In terms of sexual dysfunction, studies suggest the presence of sexual dysfunction among one-third to half of the patients receiving lithium. To conclude, this review suggests that patients with BD experience multiple negative marital and sexual consequences.

Keywords: Bipolar disorder, marital satisfaction, marriage, sexual satisfaction

Marriage is the most important of all institutions in the human society as it lays the foundation for building up of the family, the basic unit of society. Further, marriage provides a socially acceptable means to satisfy the basic human need for sexual gratification and also forms the basis for procreation and building up of family.

Marital adjustment is defined as, “the state in which there is an overall feeling between husband and wife, of happiness and satisfaction with their marriage and with each other.” Good marital adjustment is considered as a part of social well-being and this is understood as an experience of satisfactory relationship between the couple characterized by mutual concern, care, understanding, and acceptance. Disturbed marital relationship can adversely affect both physical and mental health, quality of life, and economic status of the individuals. Good marital adjustment requires maturity, in which each partner is required to accept and understand the growth and development of their partner. Sexual compatibility and gratification with mutual enjoyment is an important component which contributes to the successful marital relationship. It is, therefore, very important to understand the marital adjustment of people in a society.

There are multiple dimensions to the relationship between marriage and mental health. Marriage can act as a stressful life event and precipitate the onset or relapse of mental illness. Poor marital adjustment can also lead to onset or relapse of mental illness. Marriage is also considered as a protective factor against mental disorders. Further, there is evidence to suggest that patients with mental disorders have higher rates of marital discord, separation, and divorce.

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Eastern societies like India, beliefs that marriage can cure mental illness are also quite prevalent.[9] Data also suggest high rates of sexual dysfunction among patients receiving various psychotropic medications. Hence, it is important to understand the marital and sexual adjustment of patients with various mental illnesses and their spouses. Resolution of marital and sexual maladjustment can lead to overall improvement in the outcome of the illness.

Bipolar affective disorder (BPAD) is a complex mental disorder characterized by episodes of depression and mania/hypomania/mixed states with interepisodic phases of remission. However, over the years, it has been realized that even during remission, residual symptoms may be present in a high proportion of patients with BPAD.[9-11] Although syndromal recovery may be achieved soon after hospitalization, functional recovery is more difficult to achieve.[12] Many patients experience psychosocial and occupational difficulties,[13,14] financial problems,[15] marital failure,[16,17] substance abuse,[18,19] neuropsychological deficits,[20] sexual dysfunction,[21] suicide,[22] poor quality of life,[23] legal issues,[24] poor parenting skills,[25] and disability.[26] The complexity and variability of the illness is a challenge for individuals suffering from this illness and their families. As this illness starts early in life, i.e., during adolescent or young adulthood, it is important to understand the impact of bipolar disorder (BD) on marriage. When we looked at the available literature, we could not find a comprehensive review looking at the various marital aspects of patients with BD. Accordingly, this review attempts to evaluate the existing data of BD and marital issues. For this review, electronic searches were done using various search engines such as PubMed, Google Scholar, Science direct, and IndMed. The search terms used in various permutations and combinations included BD, bipolar affective disorder, manic-depressive psychosis, marital rates, marital failure, divorce, infertility, procreation, marital adjustment, marital satisfaction, sexual dysfunction, and sexual satisfaction. All the available articles were reviewed and relevant information was obtained. Articles focusing on other psychosocial aspects of BD in which marital rates were mentioned just as a variable were excluded. However, for the aspects for which specific data were not available, studies on various psychosocial aspects of BD were considered. Similarly, articles on caregivers’ issues, in which a proportion of caregivers were spouses, but no separate analysis was done to compare the caregivers’ issues of spouses and other caregivers, were also excluded. Data specific to ante- and post-natal psychiatric issues were not considered. We could find 22 articles focusing on the various aspects of marriage among patients with BD. We also included information from 25 articles which focused on the caregivers of patients with BD.

**MARITAL RATES AND MARITAL FAILURE RATES IN PATIENTS WITH BIPOLAR AFFECTIVE DISORDER**

Exact estimates of rates of marriage among patients with BD are not known. In one of the earliest studies published in 1952, which involved 216 patients with BD, their 2000 relatives reported that compared to the general population (number of unmarried patients – 20.3% of males and 21.8% of females), patients with BD of either gender are less likely to be married (number of unmarried patients – 30.3% of males and 30.8% of females).[27] However, later studies have shown inconsistent findings, with some studies supporting the finding of higher celibacy rate[28] among patients with BD, whereas other do not support the same.[29] Studies which have compared patients of BD with those of other disorders suggest that compared to patients with schizophrenia,[30,31] those with neurotic disorder, histrionic personality disorder, patients with BD were more likely to be in a relationship.[32] Demographic data available from various clinic-based studies from India suggest that 64.7%–98%[32-35] of patients with BD aged 18–65 years are married. Studies which have compared the demographic profile of adult patients with BD and schizophrenia in general suggest that, compared to patients with schizophrenia, higher proportion of patients with BD are married.[36,37] A multinational study, which included participants from India, which evaluated the association of mental disorders with marriage and divorce rates concluded that many mental disorders, including BD, are associated with lower likelihood of ever marrying (odds ratios ranging from 0.6 to 0.9) and higher rates of divorce.[38] Many other studies also support the findings of shorter duration of marriage among patients with BD.[39]

**RELATIONSHIP OF MARRIAGE WITH CLINICAL PROFILE**

One study evaluated the relationship of number and type of episodes with marital status among patients with BD. The authors reported that compared to never-married women, married women had lower number and lower severity of depressive episodes. However, among men, no differences were noted in terms of frequency, duration, and severity of mood episodes among married and never-married participants.[40] Another study showed that compared to married patients, divorced patients had higher number of hospitalizations and more often had residual symptoms in between the episodes.[41]

**BIPOLAR AFFECTIVE DISORDER AND PROCREATION**

Patients with BDs have been reported to have lower fertility rates. Evidence for this comes from studies evaluating fertility rates among patients with BD or from studies evaluating the
prevalence of BD among patients seeking treatment for infertility. Studies which have compared the fertility rates of patients with BD with fertility rates in the general populations using national census data are inconclusive. Some of the studies suggest that fertility rates are reduced in both males and females with BD,[42] whereas other studies suggest no difference in fertility rates between patients with BD and the general population.[43] However, this negative study is limited by the fact that it only evaluated women prior to first psychiatric admission, without considering the time of onset of illness and its relationship with childbirth. Whereas, the study by Baron et al.[42] evaluated the association of onset of BD with fertility and concluded that fertility is reduced both before and after the onset of the illness; however, in females, lower fertility rates remain constant, whereas in men, fertility rates reduce further after the onset of the illness. One large sample study from Sardinia evaluated the reproductive outcome of patients with BDs (n = 523) and compared the same with patients of major depressive disorder (n = 1351). When the number of children of patients with affective disorder was compared with the general population data of Sardinia, patients had 17% fewer children. In terms of time trends, data suggested that fertility among patients with affective disorders appeared to decline in Sardinia in the recent decades, more in men than women. This study also showed that patients with affective disorder who did not have children were younger at the time of onset of illness, more likely to be men, diagnosed with type I BD, more educated, and unmarried. Overall fertility rates in patients with BD type-1 were lower than those with major depressive disorder. Further, this study also showed that fertility rates in patients with BD type-2 may be comparable with those with major depressive disorder. In terms of gender differences, fertility rates were lower for men, when compared to women.[44] Studies from other countries have also shown lesser number of conceptions and live children for women with BD compared to general populations and major depressive disorder.[39,43] However, when compared to patients of schizophrenia, findings are inconsistent, with some studies showing lesser number of conceptions and live children for women with BD,[39] whereas others have reported comparable rates.[45]

Studies which have evaluated the prevalence of various psychiatric disorders among people seeking treatment at various infertility clinics suggest that more men with BD seek treatment for infertility than women.[46] However, these studies have not linked lower fertility rates to treatment.

Studies which have evaluated side effects of various treatments suggest that use of valproate may lead to polycystic ovarian disease and use of antipsychotics may lead to increase in prolactin levels. These can result in altered menstrual cycle and lower fertility rates.[47-49] Many studies suggest that use of valproic acid is associated with decrease in fertility rates in women because valproate leads to hyperandrogenism, hyperinsulinemia and dyslipidemia, and menstrual abnormalities.[48,50] However, data also suggest that patients with BDs have higher rates of menstrual abnormalities even before starting treatment.[51] There is no data to suggest the impact of lithium on fertility. However, considering the fact that the age of onset of BD is decreasing, some authors have postulated that introduction of lithium for management of BD may actually have increased the fertility (broadly defined) of BD patients allowing for the expression of genetic anticipation by having a second and third generation of offspring that are affected at earlier ages.[52]

**MARITAL ADJUSTMENT IN PATIENTS WITH BIPOLAR DISORDER AND THEIR SPOUSES**

There is limited data in terms of impact of BD on marital functioning. In general, most studies which have compared dyadic adjustment of BD-normal couple with healthy couples suggest that couples with one of the partners having BD often experienced poor marital adjustment when compared to healthy couples. One small sample study (depressive disorders = 23 and BD = 11) compared the perception of spouses and the quality of the dyadic relationship of patients with severe affective disorders in remission with healthy couples matched by socioeconomic status. Compared to healthy controls, spouses of patients had lower scores in terms of consensus, unity, and expressions of affection in their marital relationship, ranked their ill spouses lower on the positive qualities and higher on the negative qualities, and reported receiving less emotional and practical support from their spouses.[53] Another small sample study from the United States reported no significant difference in the marital adjustment between patient-well spouse couples and nonpatient couples.[54] Based on the National Co-morbidity Data of 2538 married respondents, it is also suggested that patients with BDs have higher marital dissatisfaction compared to those without the disorder.[55] Studies which have patients with different disorders in general suggest that marital dissatisfaction is more among female patients with BD than those with unipolar depression or who are healthy.[56] However, a recent review concluded that when compared with healthy controls and those with other mental disorders, patients with BD are closer to healthy controls than those with other mental disorders in terms of maintaining couple relationships.[57] The available studies showed that in terms of couple relationships, the major marital concern among couples with one of the partners having BD, includes decreased frequency of sexual intercourse,[58] especially during the episodes.[59]
A study from India suggests that compared to patients with epilepsy and their spouses, patients with BD and their spouses have poor marital adjustment. However, the level of marital adjustment did not have any correlation with the quality of life of patients and their spouses. Another study from the same country evaluated marital adjustment among patients with schizophrenia, BD, and substance dependence and reported poor marital adjustment among 70% of patients with BD, which was significantly higher than those with substance dependence (poor marital adjustment – 50%). However, there was no statistically significant difference from those with schizophrenia (poor marital adjustment – 60%). Another study from India, which evaluated marital adjustment and quality of life of patients with BD and their spouses and compared them with those with schizophrenia and recurrent depressive disorder, reported that marital dissatisfaction among patients with schizophrenia was more than those with BD.

Studies which have evaluated the clinical predictors of marital function for patients with BD and their partners suggest that patients’ depressive symptomatology is associated with patient ratings of general family functioning and couple functioning, while patients’ manic symptoms are associated with partners’ ratings of the romantic relationship. Partners’ total Axis II pathology, but not patients’ Axis II pathology, is associated with patient and partner perception of the couple’s relationship. Another study which evaluated partners of patients with BD reported that partners perceived higher marital disharmony when patients were ill and it was worse during manic than depressed phases. Marital disharmony was also more likely when partners believed that patients could control their illness, they had increased domestic responsibilities, or were sexually dissatisfied. One study suggested that depressive symptoms in patients with BD are associated with poorer relationship functioning, especially when the partner also had elevated depressive symptoms. In terms of manic symptoms, this study showed that manic symptoms were also associated with poor adjustment with the partner, but only when the depressive symptoms were also higher. Studies which have evaluated the caregiving correlates of marital functioning suggest that worse appraisal of the marital adjustment and functioning is associated with higher level of caregiver burden.

**BIPOLAR AFFECTIVE DISORDER AND SEXUAL DYSFUNCTION**

Adequate sexual expression is an essential part of many human relationships, and this may enhance the quality of life and provide a sense of physical, psychological, and social well-being. Studies across the globe have evaluated sexual dysfunction among patients with BD, either in relation to use of various psychotropic medications or without focusing on the type of treatment used. Studies which have compared sexual dysfunction among patients with BD and other groups suggest that prevalence of sexual dysfunction is significantly more when compared to healthy controls but less than patients with schizophrenia. However, a recent study which compared the prevalence of sexual dysfunction among patients admitted to psychiatry ward and other wards of the hospital reported that prevalence of sexual dysfunction was more among patients admitted to psychiatry ward, with prevalence of sexual dysfunction in patients with BD to be 37.3%. Further, this study reported that among patients with psychiatric disorders, those with BD had the highest prevalence of sexual dysfunction.

Management of BD involves use of mood stabilizers, antidepressants, antipsychotics, and benzodiazepines, depending on the phase of illness in which patient presents to clinician. Studies have evaluated the association of sexual dysfunction among patients with BD and various psychotropic medications. A study from India which evaluated the prevalence of sexual dysfunction among men with BD, receiving either a typical or an atypical antipsychotic medication, reported erectile dysfunction to be the most common sexual dysfunction among men and it was significantly higher among those receiving typical than atypical antipsychotic. Only few studies have evaluated the prevalence rates of sexual dysfunction among patients receiving lithium. The sample size of these studies has been in general small (24–104) and these studies suggest that about one-fourth to half of the patients receiving lithium experience sexual dysfunction. However, when the prevalence rate of sexual dysfunction among patients receiving lithium was compared with control group individuals, the findings are inconsistent, with few studies reporting comparable rates, whereas others reporting higher prevalence of sexual dysfunction among those receiving lithium. In terms of type of dysfunction among patients receiving lithium, the data are limited. One study reported decreased sexual desire (43%) to be the most common dysfunction among men, followed by difficulty in getting and maintaining an erection (40%), poor quality of orgasm (36%), and decreased quantity of ejaculate (32%). Few men reported an increase in sexual desire (7%) or improvement in sexual functioning (11%). Among females, decreased sexual desire (40%) was the most common dysfunction, followed by the decreased ability to have orgasm (26%), decreased quality of orgasm (24%), and pain during orgasm (4%). About one-fourth (24%) of the women also reported increased sexual desire and 22% reported improved orgasms with medications. A recent study from India evaluated the prevalence of sexual...
dysfunction among 100 BD patients receiving lithium and reported sexual dysfunction in more than one-third (37%) of the patients. In terms of factors associated with sexual dysfunction, this study reported that those with sexual dysfunction were older, had lower level of functioning, experienced higher number of other side effects associated with lithium, and were poorly adherent to medications.\(^5\)

Hypersexuality is understood as a symptom of mania. Accordingly, many studies have evaluated hypersexuality among patients with BD. A recent review which included 27 articles concluded that there is limited literature on hypersexuality among patients with BD. The authors concluded that when compared to patients with other psychiatric diagnoses, there is higher incidence of risky sexual behavior among patients with BD during the episodes of mania.\(^5\)

Studies which have evaluated sexual satisfaction suggest that in general patients with BD are less satisfied with their sexual life.\(^6\)\(^,\)\(^7\) Further data suggest that presence of sexual dysfunction is significantly associated with lifetime suicide attempts among patients with BD.\(^8\) Studies which have evaluated sexual satisfaction of partners also suggest lower level of sexual satisfaction, especially when the patient is ill.\(^9\) A study from India, which compared patients with BD and substance dependence on marital adjustment domains, reported patients with BD to be having significantly poor sexual and social adjustment compared to patients with substance dependence.\(^9\)

**CONCLUSIONS AND FUTURE DIRECTIONS**

Available evidence suggests that there is limited amount of data on marital issues among patients with BD and their spouses. Although some of the studies from the West have evaluated marital adjustment among patients with BDs and their spouses, most of these studies are limited by small sample size and not evaluating marital and sexual adjustment together. In general, spouses of patients with BPAD have largely been neglected in previous researches. Although there are studies which have evaluated the prevalence of sexual dysfunction among patients with BDs, there is lack of information about the perception of the patients about their own marital satisfaction, marital functioning, and sexual satisfaction. Very few studies have attempted to study marital satisfaction, marital functioning, sexual satisfaction, and sexual dysfunction experienced by the partners/spouses. In eastern countries, like India, marriage is universal irrespective of the presence or absence of mental disorder. However, there is limited data on the impact of BD on various aspects of marriage. Future studies must be designed to understand the issues between patients and their partners for better stability of marriage. Spouses of patients with BD also take up the caregiver role and provide social support to the patients. Hence, understanding the marital harmony and sexual satisfaction among patients with BD and their spouses can also help in improving the outcome of illness. Accordingly, there is a need for large sample size studies, addressing the various aspects of marriage and related issues.

This review was limited to the literature published in peer-reviewed journals. We did not include information from other sources. The information was limited primarily to the published literature in peer-reviewed journals published in English. It is quite possible that we could have missed out some of the literature published in other languages.

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There are no conflicts of interest.

**REFERENCES**

1. Nambi S. Marriage, mental health and the Indian legislation. Indian J Psychiatry 2005;47:3-14.
2. Srivastava A. Marriage as a perceived panacea to mental illness in India: Reality check. Indian J Psychiatry 2013;55:5239-42.
3. Burns DD, Sayers SL, Moras K. Intimate relationships and depression: Is there a causal connection? J Consult Clin Psychol 1994;62:1033-43.
4. Muke SS, Ghanawat GM, Chaudhury S, Mishra SK, Verma AN, Singh AR. Marital adjustment of patients with sexual dysfunction, schizophrenia and bipolar affective disorder. Med J DY Patil Univ 2014;7:133-8.
5. Luk WS. The HRQoL of renal transplant patients. J Clin Nurs 2004;13:201-9.
6. Nema S. Effect of marital adjustment in middle-aged adults. Int J Sci Res Publ 2013;3:1-6.
7. Dominian J. Marriage and psychiatric illness. Br Med J 1979;2:854-5.
8. Behere PB, Rao ST, Verma K. Effect of marriage on pre-existing psychoses. Indian J Psychiatry 2011;53:287-8.
9. Fava GA. Subclinical symptoms in mood disorders: Pathophysiological and therapeutic implications. Psychol Med 1999;29:47-61.
10. Judd LL, Akiskal HS, Schettler PJ, Coryell W, Endicott J, Maser JD, et al. A prospective investigation of the natural history of the long-term weekly symptomatic status of bipolar II disorder. Arch Gen Psychiatry 2003;60:261-9.
11. Judd LL, Akiskal HS, Schettler PJ, Endicott J, Maser J, Solomon DA, et al. The long-term natural history of the weekly symptomatic status of bipolar I disorder. Arch Gen Psychiatry 2002;59:530-7.
12. Tohen M, Hennen J, Zarate CM Jr, Baldessarini RJ, Strakowski SM, Stoll AL, et al. Two-year syndromal and functional recovery in 219 cases of first-episode major affective disorder with psychotic features. Am J Psychiatry 2000;157:220-8.
13. MacQueen GM, Young LT. Bipolar II disorder: Symptoms,
course, and response to treatment. Psychiatr Serv 2001;52:358-61.
14. Goldberg JF, Harrow M. Consistency of remission and outcome in bipolar and unipolar mood disorders: A 10-year prospective follow-up. J Affect Disord 2004;81:123-31.
15. Kleinman L, Lowin A, Flood E, Gandhi G, Edgell E, Revicki D, et al. Costs of bipolar disorder. Pharmacoeconomics 2003;21:601-22.
16. Brodie HK, Leff MJ. Bipolar depression – A comparative study of patient characteristics. Am J Psychiatry 1997;154:1276-90.
17. Kessler RC, Walters EE, Forthofer MS. The social consequences of psychiatric disorders, III: Probability of marital stability. Am J Psychiatry 1998;155:1092-6.
18. Kessler RC, Nelson CB, McGonagle KA, Edlund MJ, Frank RG, Leaf PJ, et al. The epidemiology of co-occurring addictive and mental disorders: Implications for prevention and service utilization. Am J Orthopsychiatry 1996;66:17-31.
19. Levin FR, Hennessy G. Bipolar disorder and substance abuse. Biol Psychiatry 1996;66:17-31.
20. Martinez-Ármin A, Vieta E, Reinices M, Colom F, Torrent C, Sánchez-Moreno J, et al. Cognitive function across manic or hypomanic, depressed, and euthymic states in bipolar disorder. Am J Psychiatry 2004;161:262-70.
21. Zemishlany Z, Weizman A. The impact of marital illness on sexual dysfunction. Adv Psychosom Med 2008;29:89-106.
22. Hawton K, Sutton L, Haw C, Sinclair J, Harriss L. Suicide and attempted suicide in bipolar disorder: A systematic review of risk factors. J Clin Psychiatry 2005;66:693-704.
23. Victor SE, Johnson SL, Gotlib IH. Quality of life and impulsivity in bipolar disorder. Bipolar Disord 2011;13:303-9.
24. Friedman SH, Shapiro MD, Elhai J, Youngstrom EA, Rapport DJ, Packer KA, et al. Gender differences in criminality: Bipolar disorder with co-occurring substance abuse. J Am Acad Psychiatry Law 2005;33:188-95.
25. Kumar K, Arya K. Study of behavior and temperament of the eldest son or eldest daughter of the parent suffering from Bipolar disorder. Int J Sci Res 2014;3:289-90.
26. Judd LL, Akiskal HS. The prevalence and disability of bipolar spectrum disorders in the US population: Re-analysis of the ECA database taking into account subthreshold cases. J Affect Disord 2003;73:123-31.
27. Stenstedt A. A study in manic-depressive psychosis: clinical, social and genetic investigations. Acta Psychiatr Neurol Scand 1952;28:1-111.
28. Kallmann FJ. Heredity in Health and Mental Disorder: Principles of Psychiatric Genetics in the Light of Comparative Twin Studies. Oxford, England: W.W. Norton; 1953.
29. Hopkinson G. Celibacy and marital fertility in manic-depressive patients. Acta Psychiatr Scand 1963;39:473-6.
30. Raboch J. Sexual development and life of psychiatric female patients. Arch Sex Behav 1986;15:341-53.
31. Raja M, Azzo A. Sexual behavior and sexual problems among patients with severe chronic psychoses. Eur Psychiatry 2003;18:70-6.
32. Grover S, Nehbinani N, Chakrabarti S, Avasthi A, Basu D, Kulhara P, et al. Cardiovascular risk factors among bipolar disorder patients admitted to an inpatient unit of a tertiary care hospital in India. Asian J Psychiatry 2014;10:51-5.
33. Nehra R, Grover S, Sharma S, Sharma A, Sarkar S. Neuro-cognitive functioning in unaffected siblings of patients with bipolar disorder: Comparison with bipolar patients and healthy controls. Indian J Psychiatry 2014;56:283-8.
34. Grover S, Chakrabarti S, Aggarwal M, Avasthi A, Kulhara P, Sharma S, et al. Comparative study of the experience of caregiving in bipolar affective disorder and schizophrenia. Int J Soc Psychiatry 2012;58:614-22.
35. Grover S, Aggarwal M, Chakrabarti S, Dutt A, Avasthi A, Kulhara P, et al. Prevalence of metabolic syndrome in bipolar disorder: An exploratory study from North India. Prog Neuropsychopharmacol Biol Psychiatry 2012;36:141-6.
36. Bharadwaj V, Grover S, Chakrabarti S, Avasthi A, Kate N. Clinical profile and outcome of bipolar disorder patients receiving electroconvulsive therapy: A study from North India. Indian J Psychiatry 2012;54:41-7.
37. Grover S, Chakrabarti S, Ghormode D, Dutt A. A comparative study of caregivers’ perceptions of health-care needs and burden of patients with bipolar affective disorder and schizophrenia. Nord J Psychiatry 2015;69:629-36.
38. Breslau J, Miller E, Jin R, Sampson NA, Alonso J, Andrade LH, et al. A multinational study of mental disorders, marriage, and divorce. Acta Psychiatr Scand 2011;124:474-86.
39. Bursalioglu FS, Aydin N, Yazici E, Yazici AB. The correlation between psychiatric disorders and women’s lives. J Clin Diagn Res 2013;7:695-9.
40. Lieberman DZ, Massey SH, Goodwin FK. The role of gender in single vs. married individuals with bipolar disorder. Compr Psychiatry 2010;51:380-5.
41. Macpherson R. The relationship problems of manic depressives: A preliminary study using linear analogue scales to assess relationship changes during/between illness episodes. Sex Marital Ther 1991;6:317-21.
42. Baron M, Risch N, Mendlewicz J. Differential fertility in bipolar affective illness. J Affect Disord 1982;4:103-12.
43. Odérgård O. Fertility of psychiatric first admissions in Norway 1936-1975. Acta Psychiatr Scand 1980;62:212-20.
44. Tondo L, Lepri B, Baldessarini RJ. Reproduction among 1975 Sardinian women and men diagnosed with major mood disorders. J Affect Disord 2000;58:237-40.
45. Mansour H, Kandil K, Wood J, Fathi W, Elssy M, Ibrahim I, et al. Reduced fertility and fecundity among patients with bipolar I disorder and schizophrenia in Egypt. Psychiatr Investig 2011;8:214-20.
46. Alosaimi FD, Altuwiriq MH, Bukhari M, Abotlib Z, BinSaleh S. Psychiatric disorders among infertile men and women attending three infertility clinics in Riyadh, Saudi Arabia. J Affect Disord 1982;4:103-12.
47. Haddad PM, Wieck A. Antipsychotic-induced hyperprolactinaemia: Mechanisms, clinical features and management. Drugs 2004;64:2291-314.
48. Rasgon N. The relationship between polycystic ovary syndrome and antiepileptic drugs: A review of the evidence. J Clin Psychopharmacol 2004;24:322-34.
49. Joffe H. Reproductive biology and psychotropic treatments in premenopausal women with bipolar disorder. Acta Psychiatr Scand 2011;123:283-9.
50. Morrell MJ, Isojärvi J, Taylor AE, Dam M, Ayala R, Gomez G, et al. Higher androgens and weight gain with valproate compared with lamotrigine for epilepsy. Epilepsy Res 2003;54:189-99.
51. Rasgon NL, Altshuler LL, Fairbanks L, Elman S, Bitran J, Labara R, et al. Reproductive function and risk for PCOS in women treated for bipolar disorder. Bipolar Disord 2005;7:246-59.
52. Surja AA, El-Mallakh RS. Fertility and childhood bipolar disorder. J Clin Psychiatry 2007;68:10-5.
53. Levkovitz V, Fennig S, Horesh N, Barak V, Treves I. Perception of ill spouse and dyadic relationship in couples with affective disorder and those without. J Nerv Ment Dis 2000;188:463-6.
54. Frank E, Targum SD, Gershon ES, Anderson C, Stewart BD, Davenport Y, et al. A comparison of nonpatient and bipolar patient-well spouse couples. Compr Psychiatry 2009;50:353-60.
55. Whisman MA. Marital dissatisfaction and psychiatric disorders: Results from the national comorbidity survey. J Abnorm Psychol 1999;108:701-6.
56. Radke-Yarrow M, Martinez P, Mayfield A, Ronsaville D. Children of Depressed Mothers: From Early Childhood to Maturity. New York: Cambridge University Press; 1998.
70. Ahmadzadeh G, Shahin A. Sexual dysfunctions in the patients hospitalized in psychiatric wards compared to other specialized wards in Isfahan, Iran, in 2012. Adv Biomed Res 2015;4:225.
71. Fountoulakis KN, Kasper S, Andreassen O, Blier P, Okasha A, Severus E, et al. Efficacy of pharmacotherapy in bipolar disorder: A report by the WPA section on pharmacopsychiatry. Eur Arch Psychiatry Clin Neurosci 2012;262 Suppl 1:1-48.
72. American Psychiatric Association; Practice guideline for the treatment of patients with bipolar disorder (revision). Am J Psychiatry 2002;159:1-50.
73. National Institutes of Health and Clinical Excellence, Bipolar Disorder; The Management of Bipolar Disorder in Adults, Children and Adolescents, in Primary and Secondary Care. London, UK; 2006.
74. Nagaraj AK, Pai NB, Rao S. A comparative study of sexual dysfunction involving risperidone, quetiapine, and olanzapine. Indian J Psychiatry 2009;51:265-71.
75. Lorimy F, Lôo H, Deniker P. Clinical effects of long-term lithium treatment on sleep, appetite and sexuality. Encephale 1977;3:227-39.
76. Kristensen E, Jørgensen P. Sexual function in lithium-treated manic-depressive patients. Pharmacopsychiatry 1987;20:165-7.
77. Ghadirian AM, Annable L, Bélanger MC. Lithium, benzodiazepines, and sexual function in bipolar patients. Am J Psychiatry 1992;149:801-5.
78. Aizenberg D, Sigler M, Zemishlany Z, Weizman A. Lithium and male sexual function in affective patients. Clin Neuropharmacol 1996;19:515-2.
79. Zuncheddu C, Carpiniello B. Sexual dysfunctions and bipolar disorder: A study of patients submitted to a long-term lithium treatment. Clin Ter 2006;157:419-24.
80. Grover S, Ghosh A, Sarkar S, Chakrabarti S, Avasthi A. Sexual dysfunction in clinically stable patients with bipolar disorder receiving lithium. J Clin Psychopharmacol 2014;34:475-82.
81. Schaffer A, Isometsä ET, Azorin JM, Cassidy F, Goldstein T, Rimher Z, et al. A review of factors associated with greater likelihood of suicide attempts and suicide deaths in bipolar disorder: Part II of a report of the international society for bipolar disorders task force on suicide in bipolar disorder. Aust N Z J Psychiatry 2015;49:1006-20.