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Associations between Psychiatric Disorders and Menstrual Cycle Characteristics

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Abstract
Background: The present study was conducted for assessing the association between Psychiatric Disorders and Menstrual Cycle Characteristics.**Materials & methods:**A total of 100 female subjects within the age group of 20 to 35 years were enrolled. Complete demographic details of all the patients were obtained. A Performa was made and complete details of menstrual history were recorded. Questionnaire was made and psychiatric illness was assessed among all the subjects. Also correlation between psychiatric disorder and menstrual cycle characteristics was evaluated. Subjects with history of any co-morbid condition were excluded. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.**Results:** Psychiatric disorders were present in 48 percent of the patients. Among these 48 patients, Anxiety, Depression, Bipolar disorder, Obsessive compulsive disorder and Post-traumatic stress disorder were seen in 12 patients, 6 patients, 8 patients, 9 patients and 13 patients respectively. While correlating statistically it was observed that psychiatric disorders were more significantly seen in patients with irregular menstrual cycle and with cycle duration of≤28 days. **Conclusion:** While analysing the results, authors concluded that significant correlation exists between psychiatric disorders and menstrual cycle characteristics.
Key words: Psychiatric disorder, menstrual cycle.

Introduction

Women of reproductive age with psychiatric disorders may experience a fluctuating course of illness over the menstrual cycle. Some data suggest an exacerbation of symptoms during the premenstrual and menstrual phases. The usefulness of such reports is limited, however, by the lack of prospective assessments and the small number of patients involved. Additionally, many reports do not specify whether the exacerbations reflect an intensification of the underlying psychiatric disorder or a new onset of symptoms that occur only during certain phases of the menstrual cycle. Because symptomatic intensification has been reported for illnesses including schizophrenia, bipolar disorder, depression, anxiety disorders, bulimia nervosa, and substance abuse, the data bring attention to the importance of assessing the relationship between a female patient's symptomatic exacerbation and the menstrual-cycle phase in which it occurs[1-3].The menstrual cycle also is a trigger for the onset of depressive disorders, including premenstrual dysphoric disorder, a disorder specific to the luteal phase of the menstrual cycle, and depression associated with the transition to menopause. Throughout the reproductive lifespan, routine screening and assessment for the presence of common psychiatric disorders are critical for accurate diagnosis and provision of effective treatment. Management options include referral or consultation with a primary care provider or psychiatrist; treatment options for premenstrual dysphoric disorder and perimenopausal depression include pharmacotherapy with antidepressant agents and/or psychotherapy. Hormones may be helpful [4-6].Hence; the present study was conducted for assessing the association between Psychiatric Disorders and Menstrual Cycle Characteristics.

Materials & methods

The present study was conducted for assessing the association between Psychiatric Disorders and Menstrual Cycle Characteristics. A total of 100 female subjects within the age group of 20 to 35 years were enrolled. Complete demographic details of all the patients were obtained. A Performa was made and complete details of menstrual history were recorded. Questionnaire was made and psychiatric illness was assessed among all the subjects. Also correlation between psychiatric disorder and menstrual cycle characteristics was evaluated. Subjects with history of any co-morbid condition were excluded. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

Results

In the present study, a total of 100 subjects were enrolled. Mean age of the subjects was 29.5 years. Among 43 subjects, menstrual cycle was irregular while it was regular in 57 percent of the patients. Among 48 subjects, menstrual cycle was of ≤28 days duration. Psychiatric disorders were present in 48 percent of the patients. Among these 48 patients, Anxiety, Depression, Bipolar disorder, Obsessive compulsive disorder and Post-traumatic stress disorder were seen in 12 patients, 6 patients, 8 patients, 9 patients and 13 patients respectively. While correlating statistically it was observed that psychiatric disorders were more significantly seen in patients with irregular menstrual cycle and with cycle duration of≤28 days

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Table 1: Menstrual characteristics

Variable		Number of subjects	Percentage
Cycle regularity	Irregular	43	43
	Regular	57	57
Cycle duration	≤28 days	48	48
	>28 days	52	52

Table 2: Psychiatric disorder

Psychiatric disorder	Number of patients	Percentage
Anxiety	12	12
Depression	6	6
Bipolar disorder	8	8
Obsessive compulsive disorder	9	9
Post-traumatic stress disorder	13	13
Absent	52	52
Total	100	100

Table 3: Correlation of psychiatric disorders and Menstrual Cycle Characteristics

Variable		Psychiatric disorder present	Psychiatric disorder absent	p- value
Cycle regularity	Irregular	29	14	0.00*
	Regular	19	38	
Cycle duration	≤28 days	26	22	0.01*
	>28 days	22	30	

*: Significant

Discussion

Menstrual function has a central role in women's physical and reproductive health. Menstrual disturbances have been associated with adverse health outcomes, including increased risks for coronary heart disease, type 2 diabetes mellitus, cardiometabolic disease, and reduced fecundability. Therefore, it is important to identify factors associated with menstrual cycle dysfunction. Depression and anxiety-related disorders are among the leading causes of years of life lost due to premature mortality or disability. Depression and anxiety disorders are associated with dysregulation of the hypothalamic–pituitary–adrenal axis (HPA), which can delay or impede the luteinizing hormone (LH) surge and impair ovarian function.Hence; the present study was conducted for assessing the association between Psychiatric Disorders and Menstrual Cycle Characteristics. In the present study, a total of 100 subjects were enrolled. Mean age of the subjects was 29.5 years. Among 43 subjects, menstrual cycle was irregular while it was regular in 57 percent of the patients. Among 48 subjects, menstrual cycle was of ≤28 days duration. Psychiatric disorders were present in 48 percent of the patients. Barron ML et al investigated whether psychiatric disorders are associated with menstrual cycle length or regularity. The sample included 628 pregnant Medicaid-eligible women from Women, Infants and Children Supplemental Nutrition Program sites in 5 counties in rural Missouri and the city of St. Louis. Women were assessed for current (12-month) and lifetime psychiatric disorders with the Diagnostic Interview Schedule IV. Menstrual length and regularity were assessed by self-report. Analyses consisted of logistic regression while controlling for race[11]. Gleeson PC et al documented the menstrual characteristics of women with chronic schizophrenia with focus upon menstrual regularity, menstrual cycle length and menstrual symptoms. Of the 139 women, 77 (55.4%) had regular menses, 57 (41%) had irregular menses and 5 (3.6%) women had missing data on their menstrual cycle. Use of atypical antipsychotics associated with hyperprolactinaemia was positively associated with irregular menses (odds ratio = 4.4, 95% confidence interval = [1.8, 10.9], p = 0.001), while age more than 30 years was negatively associated (odds ratio = 0.3, 95% confidence interval = [0.1, 0.6], p = 0.004). Women with irregular cycles had significantly lower oestradiol levels than women with regular cycles (213.2 ± 25.0 vs 299.0 ± 27.3, p = 0.03), but there was no difference in Positive and Negative Syndrome Scale, Montgomery-Asberg Depression Rating Scale or Repeatable Battery for the Assessment of Neuropsychological Status between those with regular and irregular cycles. The most common menstrual associated symptoms were decrease in mood with the menstrual cycle (64.8%), bloating (64.8%), cramps (59.7%), back pain (37.6%) and worsening of psychosis symptoms (32.4%). Regular menses are associated with higher oestradiol levels and higher rates of cyclical mood symptoms but are not associated with Positive and Negative Syndrome Scale scores[7]. In the present study, among these 48 patients, Anxiety, Depression, Bipolar disorder, Obsessive compulsive disorder and Post-traumatic stress disorder were seen in 12 patients, 6 patients,8 patients,9 patients and 13 patients respectively. While correlating statistically it was observed that psychiatric disorders were more significantly seen in patients with irregular menstrual cycle and with cycle duration of≤28 days. A retrospective study of 43 women with panic disorder noted that in the 7 days before menses, subjects experienced an increased number of panic attacks and 22 reported a worsening of anxiety symptoms. Another study that assessed panic symptoms both retrospectively and prospectively reported a history of premenstrual worsening of panic symptoms in 41% of 94 patients. Twenty-four of the 94 completed prospective ratings over two menstrual cycles, with 12 reporting at least a 100% increase in the frequency of panic attacks. An association was noted during the premenstrual phase between negative mood and exacerbation of panic disorder[12-14].Nillni YI et al examined the influence of depressive symptoms, perceived stress, and psychotropic medication use on prospectively assessed menstrual cycle regularity and length. Women with severe depressive symptoms at baseline, regardless of psychotropic medication use, had an 80% greater prevalence of irregular cycles during follow-up than women with no or low depressive symptoms. Perceived stress was also associated with the prevalence of irregular cycles during follow-up. Psychotropic medication use was not appreciably associated with menstrual characteristics after controlling for history of diagnosed depression and/or anxiety. Depressive symptoms, perceived stress, and psychotropic medication use showed little association with menstrual cycle length. Higher levels of depressive symptoms and perceived stress were associated with irregular menstrual cycles, but not appreciably associated with menstrual cycle length[15]

Conclusion

While analysing the results, authors concluded that significant correlation exists betweenpsychiatric disorders and menstrual cycle characteristics.

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