

ORIGINAL RESEARCH

To investigate the associations between psychiatric disorders and the characteristics of the menstrual cycle

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ABSTRACT

Aim: The purpose of this study is to investigate the associations between psychiatric disorders and the characteristics of the menstrual cycle. **Materials & methods:** One hundred different female volunteers ranging in age from 18 to 36 years old were recruited for the study. It was possible to get all of the patients' complete demographic information. A Performa was created, and comprehensive information on the history of menstruation was documented. A questionnaire was developed, and all of the respondents' mental health was evaluated using that questionnaire. In addition, the association between mental disorders and the parameters of the menstrual cycle was investigated. **Results:** Menstrual cycles were not regular in 45 of the participants, while 55 of the patients had regular cycles. The length of the menstrual cycle was less than 28 days in 46 of the patients. A total of 46% of the patients suffered from some kind of psychiatric condition. Anxiety, depression, bipolar disorder, obsessive compulsive disorder, and post-traumatic stress disorder were each diagnosed in 13 patients, 4 patients, 7 patients, and 8 patients, respectively, out of these 46 patients. **Conclusion:** After doing the statistical analysis, the scientists came to the conclusion that there is a substantial association between mental diseases and the features of the menstrual cycle.

Keywords: Psychiatric disorders, Menstrual cycle, Anxiety, Depression

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INTRODUCTION

It is possible for the symptoms of mental illness to change throughout the course of a woman's menstrual cycle if the woman is of reproductive age and has the disease. There is evidence that premenstrual and menstrual phases are associated with an increase in the severity of symptoms. Nevertheless, due to the absence of prospective evaluations and the very small number of patients included, the utility of such studies is severely constrained. In addition, many of the studies do not clarify whether the exacerbations represent an aggravation of the underlying mental disease or a new beginning of symptoms that only manifest themselves during certain periods of the menstrual cycle. This is a significant limitation of the research. Due to the fact that symptomatic intensification has been reported for illnesses such as 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 phase of the menstrual cycle during which it occurs[1-3]. In addition, the menstrual cycle can act as a catalyst for the onset of depressive disorders, such as premenstrual dysphoric disorder, which is a condition that only manifests itself during the luteal phase of the menstrual cycle, and the depression that is associated with the transition into menopause. Screening and evaluation for the presence of common mental illnesses should be routinely performed throughout a person's reproductive life span in order to ensure accurate diagnosis and the provision of appropriate treatment. Treatment options for premenstrual dysphoric disorder and perimenopausal depression include pharmacotherapy with antidepressant agents and/or psychotherapy. Management options include referral or consultation with a primary care provider or psychiatrist. Premenstrual dysphoric disorder may also be referred to as PMDD. Hormones could be of some assistance [4-6]. As a result, the current research was carried out with the purpose of determining whether or not there

is a connection between psychiatric disorders and the characteristics of the menstrual cycle.

MATERIALS & METHODS

The purpose of the current research was to investigate whether or not there is a connection between psychiatric disorders and the characteristics of the menstrual cycle. One hundred different female volunteers ranging in age from 18 to 36 years old were recruited for the study. It was possible to get all of the patients' complete demographic information. A Performa was created, and comprehensive information on the history of menstruation was documented. A questionnaire was developed, and all of the respondents' mental health was evaluated using that questionnaire. In addition, the association between mental disorders and the parameters of the menstrual cycle was investigated. Participants who had a history of any co-morbid condition were disqualified from the study. All of the findings were

entered into a spreadsheet created in Microsoft Excel, and SPSS 25.0 was used to do the analysis.

RESULTS

In the current investigation, a total of one hundred participants signed up to take part. A mean age of 30.11 years was found among the participants. Menstrual cycles were not regular in 45 of the participants, while 55 of the patients had regular cycles. The length of the menstrual cycle was less than 28 days in 46 of the patients. A total of 46% of the patients suffered from some kind of psychiatric condition. Anxiety, depression, bipolar disorder, obsessive compulsive disorder, and post-traumatic stress disorder were each diagnosed in 13 patients, 4 patients, 7 patients, and 8 patients, respectively, out of these 46 patients. During the process of statistical correlation, it was shown that patients who had an irregular menstrual cycle and a cycle length of less than 28 days were substantially more likely to suffer from mental problems.

Table 1: Menstrual characteristics

| Variable | | Number of subjects | Percentage |
|------------------|-----------|--------------------|------------|
| Cycle regularity | Irregular | 45 | 45 |
| | Regular | 55 | 55 |
| Cycle duration | ≤28 days | 46 | 46 |
| | >28 days | 54 | 54 |

Table 2: Psychiatric disorder

| Psychiatric disorder | Number of patients | Percentage |
|--------------------------------|--------------------|------------|
| Anxiety | 13 | 13 |
| Depression | 4 | 4 |
| Bipolar disorder | 7 | 7 |
| Obsessive compulsive disorder | 8 | 8 |
| Post-traumatic stress disorder | 14 | 14 |
| Absent | 54 | 54 |
| Total | 100 | 100 |

Table 3: Correlation of psychiatric disorders and Menstrual Cycle Characteristics

| Variable | | Psychiatric disorder present=46 | Psychiatric disorder absent=54 | p- value |
|------------------|-----------|---------------------------------|--------------------------------|----------|
| Cycle regularity | Irregular | 28 | 17 | 0.001 |
| | Regular | 18 | 37 | |
| Cycle duration | ≤28 days | 25 | 21 | 0.02 |
| | >28 days | 21 | 33 | |

DISCUSSION

The function of menstruation is very important to the overall physical and reproductive health of women. Menstrual irregularities have been linked to negative results in terms of health, such as higher risks for coronary heart disease, type 2 diabetes mellitus, cardiometabolic illness, and lower fecundability in women. As a result, it is essential to determine the causes related with dysfunctional menstrual cycles. Disorders that are associated with depression and anxiety are among the top causes of years of life lost owing to early death or disability. Dysregulation of the hypothalamic–pituitary–adrenal axis (HPA),

which is linked with depression and anxiety disorders, may delay or obstruct the luteinizing hormone (LH) surge and impair ovarian function. Depression and anxiety disorders are related with the HPA. As a result, the current research was carried out with the purpose of determining whether or not there is a connection between psychiatric disorders and the characteristics of the menstrual cycle. In the current investigation, a total of one hundred participants signed up to take part. The average age of the participants was determined to be 31.11 years. Menstrual cycles were not regular in 45 of the participants, while 55 of the patients had regular

cycles. The length of the menstrual cycle was less than 28 days in 46 of the patients. A total of 46% of the patients suffered from some kind of psychiatric condition. Barron ML et colleagues conducted research to determine whether or not mental problems are linked to the duration of the menstrual cycle or its regularity. The sample consisted of 628 pregnant women who qualified for Medicaid and were receiving nutrition assistance via the Women, Infants, and Children Supplemental Nutrition Program at sites located in five rural counties in Missouri and in the city of St. Louis. Self-report was used to evaluate women's menstrual duration and regularity, and the Diagnostic Interview Schedule IV was used to evaluate women for present (12-month) and lifetime mental illnesses. Logistic regression was used to conduct the analyses while correcting for racial factors [11]. Menstrual features of women with chronic schizophrenia were studied by Gleeson PC et al. The researchers focused on monthly regularity, menstrual cycle duration, and menstrual symptoms when compiling their findings. 77 (55.4%) of the 139 women had normal menstrual cycles, 57 (41%) had irregular menstrual cycles, and 5 (3.6%) of the women lacked information on their menstrual cycle. It was found that the use of atypical antipsychotics associated with hyperprolactinaemia was positively associated with irregular menses (odds ratio = 4.4, 95% confidence interval = [1.8, 10.9], $p = 0.001$), whereas the age of more than 30 years was found to be negatively associated (odds ratio = 0.3, 95% confidence interval = [0.1, 0.6], $p = 0.004$). There was no difference in the Positive and Negative Syndrome Scale, the Montgomery-Asberg Depression Rating Scale, or the Repeatable Battery for the Assessment of Neuropsychological Status between those with regular and irregular cycles. Oestradiol levels were significantly lower in women with irregular cycles compared to women with regular cycles (213.2 vs 259.0, $p = 0.03$). The most common symptoms associated with menstruation were a decrease in mood during the menstrual cycle (64.8% of women reported this), bloating (64.8% of women reported this), cramps (59.7% of women reported this), back pain (37.6% of women reported this), and worsening psychosis symptoms (32.4% of women reported this). There is no correlation between regular menstruation and scores on the Positive and Negative Syndrome Scale [7], despite the fact that regular menstruation is linked with greater oestradiol levels and higher rates of cyclical mood disorders. In the current research including these 46 individuals, anxiety, depression, bipolar disorder, obsessive-compulsive disorder, and post-traumatic stress disorder were identified in 13 patients, 4 patients, 7 patients, 8 patients, and 14 patients, respectively. During the process of statistical correlation, it was shown that patients who had an irregular menstrual cycle and a cycle length of less than 28 days were substantially more likely to suffer from mental

problems. The patients in a retrospective research of 43 women who suffered from panic disorder noticed a greater frequency of panic attacks and a worsening of anxiety symptoms in the week leading up to their menstrual periods, according to the findings of the study. In a different study that evaluated panic symptoms both retrospectively and prospectively, the researchers found that 41% of the 94 patients had a history of premenstrual aggravation of panic symptoms. Twelve of the 94 participants who completed prospective ratings across two menstrual cycles reported an increase in panic attack frequency of at least 100%. Twenty-four of the 94 participants who completed prospective ratings. During the premenstrual phase, a negative mood was found to be associated with an exacerbation of panic disorder [12-14]. Nillni YI et al. investigated the influence of depressive symptoms, perceived stress, and the use of psychotropic medication on prospectively evaluated menstrual cycle regularity and length. Women who had severe depression symptoms at baseline had an 80% higher incidence of irregular periods during follow-up compared to women who had no or mild depressed symptoms. This was the case regardless of whether or not the women used psychotropic medications. Throughout the follow-up period, perceived stress was shown to be related with a higher incidence of irregular cycles. After taking into account a person's previous history of being diagnosed with depression or anxiety, the usage of psychotropic medication was not shown to be significantly connected with menstrual features. There was very little correlation found between depressive symptoms, perceived stress, and the use of psychotropic medication and the duration of the menstrual cycle. Greater levels of depressive symptoms and perceived stress were related with irregular menstrual periods, but there was no significant association between the two factors and the duration of the menstrual cycle [15].

CONCLUSION

After doing the statistical analysis, the scientists came to the conclusion that there is a substantial association between mental diseases and the features of the menstrual cycle.

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