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# Aggression, Impulsiveness, And Mental Health Among Young Women During The Pre-Menstrual And Post-Menstrual Phases

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***Abstract***
*The menstrual cycle is associated with various physiological and psychological changes that may influence emotional regulation, behavior, and overall mental well-being in women. The present study aimed to examine differences in aggression, impulsiveness, and mental health among young women during the premenstrual and postmenstrual phases. A sample of 40 young women aged 18–25 years was selected using purposive sampling. Data were collected during two phases of the menstrual cycle: the seven days prior to menstruation (premenstrual phase) and the seven days following menstruation (postmenstrual phase). Aggression was assessed using the Aggression Scale developed by Dr. Pragati Bansal, impulsiveness was measured using the Impulsiveness Scale by Dr. S. N. Ray and Dr. Alka Sharma, and mental health was evaluated using the Mental Health Scale by Dr. D. J. Bhatt and G. R. Gida. A pre-test–post-test research design was employed, with the same standardized tools administered in both phases to ensure consistency. Data were analyzed using the t-test. The results revealed significant differences in aggression, impulsiveness, and mental health between the premenstrual and postmenstrual phases. Aggression and impulsiveness were significantly higher, while mental health was lower during the premenstrual phase compared to the postmenstrual phase. Correlation analysis further indicated a positive relationship between aggression and impulsiveness, and negative relationships between aggression and mental health as well as between impulsiveness and mental health. These findings suggest that menstrual cycle phases significantly influence aggression, impulsiveness, and mental health among young women.*

***Keywords:*** *Aggression, Impulsiveness, Mental health, young women*

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## I. Introduction

Menstruation is a natural biological process experienced by women during their reproductive years and is often accompanied by various physical, emotional, and psychological changes. Hormonal fluctuations occurring before and during the menstrual cycle can significantly influence mood, behavior, and overall mental well-being. Many young women experience noticeable psychological symptoms during the premenstrual and menstrual phases, which may affect their daily functioning, interpersonal relationships, and academic or occupational performance.

Previous research has indicated that the premenstrual phase is frequently associated with increased levels of aggression, impulsiveness, irritability, anxiety, and emotional instability. These changes are primarily attributed to variations in estrogen and progesterone levels, which influence neurotransmitters such as serotonin and dopamine. As a result, young women may exhibit heightened emotional reactivity, reduced self-control, and difficulties in coping with stress during the premenstrual period.

Aggression and impulsiveness are important psychological variables that reflect an individual's ability to regulate emotions and behavior. Increased impulsiveness may lead to poor decision-making and heightened aggression, which can negatively impact mental health. Mental health, on the other hand, represents a state of emotional, psychological, and social well-being and plays a crucial role in determining how individuals handle stress, relate to others, and make choices in life. Any disturbance in mental health during the menstrual cycle can reduce overall quality of life.

Comparing psychological variables during the premenstrual and postmenstrual phases provides valuable insight into the extent to which menstruation influences behavior and mental health. Understanding these differences is essential for developing effective psychological interventions, counseling strategies, and awareness programs aimed at improving women's mental well-being.

Therefore, the present study aims to examine and compare levels of aggression, impulsiveness, and mental health among young women during the premenstrual and postmenstrual phases. The findings of this study may help educators, counselors, and mental health professionals better understand menstrual-related psychological changes and provide appropriate support to young women.

## II. Review Of Literature

Moos (1968) conducted a comprehensive study on menstrual distress and behavioral changes across different phases of the menstrual cycle. The findings revealed that women experienced significantly higher levels of irritability, anger, and aggressive tendencies during the premenstrual phase as compared to the postmenstrual phase. These behavioral changes were mainly attributed to hormonal fluctuations that affect emotional regulation.

Dalton (1977) examined the relationship between the menstrual cycle and aggressive behavior among women. The study reported an increase in verbal aggression, emotional outbursts, and irritability during the premenstrual period. In contrast, aggression levels were found to decrease after menstruation, indicating greater emotional stability during the postmenstrual phase.

Reid and Yen (1981) studied behavioral control across various phases of the menstrual cycle. The results showed that impulsive behavior, poor frustration tolerance, and reduced self-control were more prominent during the premenstrual phase. The authors suggested that hormonal imbalance plays a significant role in increasing impulsiveness during this phase.

Cohen et al. (1983) investigated cognitive and emotional changes associated with the menstrual cycle. The findings revealed that women exhibited higher impulsivity and rapid emotional reactions during the premenstrual phase. In contrast, improved decision-making ability and better behavioral control were observed during the postmenstrual phase.

Halbreich (2003) reviewed clinical evidence related to premenstrual disorders and mental health. The study indicated that symptoms such as anxiety, depression, mood swings, and psychological distress were significantly higher during the premenstrual phase. These symptoms adversely affected overall mental health and daily functioning.

Endicott et al. (1999) examined mood patterns and psychological well-being across different menstrual phases. The findings revealed that mental health indicators such as emotional stability, positive mood, and psychological well-being improved during the postmenstrual phase, suggesting better mental health after menstruation.

**Importance of Research**

The present research is important because it helps to understand the psychological changes associated with the menstrual cycle among young women, particularly in terms of aggression, impulsiveness, and mental health. By comparing premenstrual and postmenstrual phases, this study highlights how hormonal fluctuations influence emotional regulation and behavior. The findings can contribute to early identification of menstrual-related psychological difficulties and promote awareness among young women, educators, counselors, and mental health professionals. This research also provides a scientific basis for developing effective psychological interventions, counseling strategies, and mental health programs aimed at improving emotional well-being and quality of life in young women.

**Objectives**

1. To measure aggression in young women before and after menstrual cycle.
2. To measure impulsiveness in young women before and after menstrual cycle.
3. To measure mental health in young women before and after menstrual cycle.
4. To check the correlation between aggression and impulsiveness.
5. To check the correlation between aggression and mental health.
6. To check the correlation between impulsiveness and mental health.

**Null hypothesis**

1. There will be no significant difference in aggression among young women before and after the menstrual cycle.
2. There will be no significant difference in impulsiveness among young women before and after the menstrual cycle.

3. There will be no significant difference in mental health among young women before and after the menstrual cycle.
4. There will be no significant correlation will be found aggression and impulsiveness.
5. There will be no significant correlation will be found aggression and mental health.
6. There will be no significant correlation will be found impulsiveness and mental health.

## III. Methodology

**Sample**

The sample for the present study consisted of 40 young women aged 18 to 25 years, selected through purposive sampling. Data were collected from the same participants during the premenstrual and postmenstrual phases.

**Research tools**

**Aggression**

The Aggression Scale was developed by Dr. Pragati Bansal and was translated into Gujarati by Y. A. Jogsan and D. R. Doshi. The scale consists of 30 items, with a possible score ranging from a minimum of 0 to a maximum of 150. The reliability coefficient obtained through the split-half method was 0.82, while the test–retest reliability was found to be 0.78. The validity coefficient of the scale was 0.74, and the validity of the Hindi version of the scale was reported as 0.78.

**Impulsiveness**

This test was developed by Dr. Rai and Dr. Sharma. The Gujarati translation has been done by Dr. Jogsan and Dr. Doshi (2019). This is a two-point scale, in which 30 statements are given. Which is high reliability. The accuracy of the scale has been obtained to be 0.58.

**Mental health inventory**

This inventory was developed by Dr. Bhatt D.J. and Gida (1992). This scale revised by siddhapura (2006). This scale contains 40 items. With 3 alterative response varying form agree, neutral and disagree. Each to be rated on 3-point scale the minimum and maximum score obtained in the scale are 40 and 120 respectively, there reliability is r-0.94 and validity is r-0.63.

**Data collection**

According to the objectives of the present research, null hypotheses were formulated, and appropriate statistical techniques were selected to obtain reliable data. The main purpose of the study was to examine aggression, impulsiveness, and mental health among young women during the premenstrual and postmenstrual phases. For this purpose, the Aggression Scale developed by Dr. Pragati Bansal was used to measure aggression. Impulsiveness was assessed using the Impulsiveness Scale developed by Dr. S. N. Ray and Dr. Alka Sharma. Mental health was measured with the Mental Health Scale developed by Dr. D. J. Bhatt and G. R. Gida. All three standardized tools were administered to the same participants during both phases of the menstrual cycle, namely the seven days prior to menstruation (premenstrual phase) and the seven days following menstruation (postmenstrual phase), to ensure consistency in data collection. The collected data were then analyzed using appropriate statistical techniques.

**Research Design**

The purpose of the present research was to examine aggression, impulsiveness, and mental health among young women during the premenstrual and postmenstrual phases of the menstrual cycle. The study adopted a pre-test–post-test research design. A total sample of 40 young women aged between 18 and 25 years was selected using the purposive sampling method. Data were collected from the same participants during two phases of the menstrual cycle, namely the seven days prior to menstruation (premenstrual phase) and the seven days following menstruation (postmenstrual phase). Aggression, impulsiveness, and mental health were measured using standardized psychological scales. The t-test was used to examine the difference between the mean scores of aggression, impulsiveness and mental health during the premenstrual and postmenstrual phases. The Karl Pearson correlation method was employed to assess the relationship among aggression, impulsiveness, and mental health.

## IV. Discussion Of The Result

**Result table:1 showing the mean and t-value of aggression**

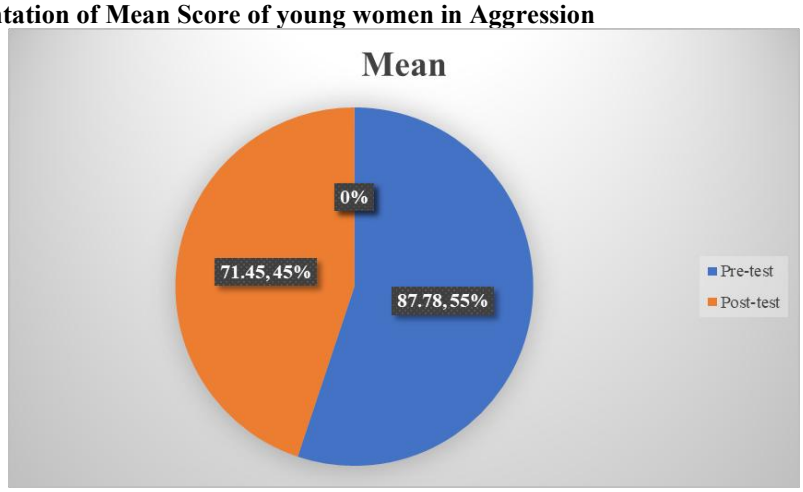
| Sr no. | Variables | N | Mean | S.D. | t | Sig |
|---|---|---|---|---|---|---|
| 1 | Pre-test | 40 | 87.78 | 21.20 | 3.58 | 0.01 |
| 2 | Post-test | 40 | 71.45 | 19.54 | | |

**Significant level 0.05 = 1.99**
**0.01 = 2.63**

The results of the present study indicate a significant difference in aggression levels among young women during the pre-menstrual and post-menstrual phases. The mean score of aggression in the pre-test was 87.78 (SD = 21.20), whereas the mean score in the post-test was 71.45 (SD = 19.54). The obtained t-value was 3.58, which is significant at the 0.01 level (critical value = 2.63). This clearly shows that aggression levels were significantly higher during the pre-menstrual phase compared to the post-menstrual phase. Hence, the null hypothesis was rejected, and it can be concluded that the menstrual phase has a significant effect on aggression among young women.

The higher level of aggression observed during the pre-menstrual phase may be explained by hormonal imbalance. During this phase, fluctuations in hormones such as estrogen and progesterone affect emotional regulation, impulse control, and stress tolerance. These hormonal changes often result in irritability, anger, mood swings, and emotional instability, which may increase aggressive tendencies. Physical discomfort, fatigue, and psychological stress experienced during the pre-menstrual phase may further intensify emotional reactions. In contrast, hormonal stabilization during the post-menstrual phase helps improve emotional balance and reduce aggressive behavior.\

**Graphical Presentation of Mean Score of young women in Aggression**




**Showing the effect of menstrual cycle on aggression**

| | |
|---|---|
| **Pre** | 87.78 |
| **Post** | 71.45 |
| **change** | 16.33 |

The table shows that the mean aggression score before menstruation was 87.78, and after menstruation it was 71.45. The difference of 16.33 indicates that aggression was higher before menstruation and decreased after menstruation. This shows that the menstrual cycle affects aggression levels among young women.

**Result table:2 showing the mean and t-value of Impulsiveness**

| Sr no. | Variables | N | Mean | S.D. | t | Sig |
|---|---|---|---|---|---|---|
| 1 | Pre-test | 40 | 21.13 | 3.94 | 8.49 | 0.01 |
| 2 | Post-test | 40 | 14.10 | 3.45 | | |

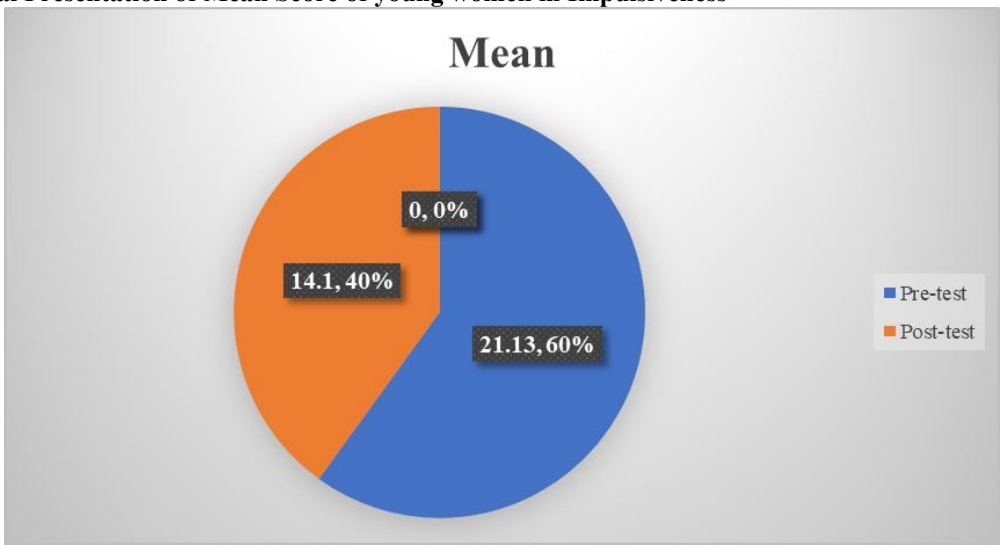
**Significant level 0.05 = 1.99**
**0.01 = 2.63**

The results related to impulsiveness indicate a significant difference between the pre-menstrual and post-menstrual phases among young women. The mean score of impulsiveness in the pre-test was 21.13 (SD = 3.94), whereas the mean score in the post-test was 14.10 (SD = 3.45). The obtained t-value was 8.49, which is significant at the 0.01 level. This result clearly shows that impulsiveness is significantly higher during the pre-

menstrual phase compared to the post-menstrual phase. Therefore, the null hypothesis was rejected, confirming that the menstrual phase has a significant effect on impulsiveness among young women.

The increased level of impulsiveness during the pre-menstrual phase can be explained by hormonal fluctuations and emotional instability. Changes in estrogen and progesterone levels affect cognitive control, decision-making ability, and emotional regulation. As a result, young women may experience difficulty controlling sudden reactions, impatience, and impulsive behaviors. Psychological stress, irritability, and reduced tolerance during this phase may further contribute to impulsive responses. In contrast, hormonal balance during the post-menstrual phase helps improve self-control and emotional stability, leading to reduced impulsiveness.

**Graphical Presentation of Mean Score of young women in Impulsiveness**




**Showing the effect of menstrual cycle on impulsiveness**

| | |
|---|---|
| **Pre** | 21.13 |
| **Post** | 14.10 |
| **Change** | 7.03 |

The table shows that the mean impulsiveness score before menstruation (Pre) was 21.13, and after menstruation (Post) it was 14.10. The mean difference of 7.03 indicates that impulsiveness was higher before menstruation and decreased after menstruation. This suggests that the menstrual cycle has an effect on impulsiveness among young women.

**Result table:3 showing the mean and t-value of mental health**

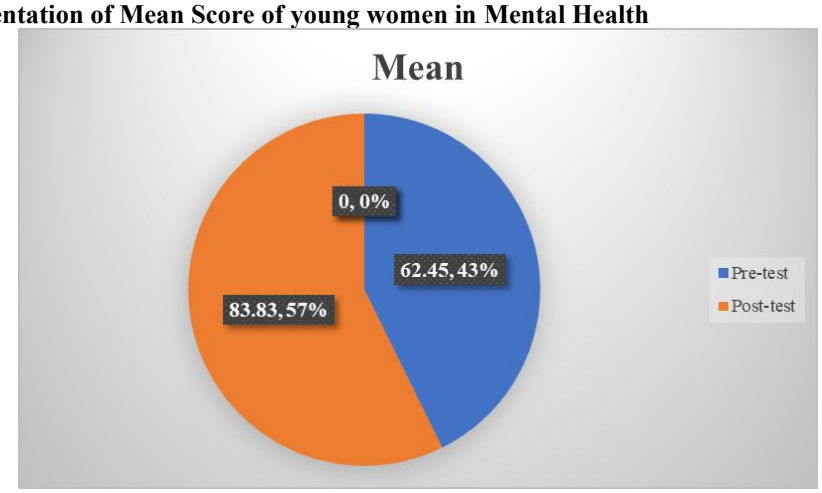
| Sr no. | Variables | N | Mean | S.D. | t | Sig |
|---|---|---|---|---|---|---|
| 1 | Pre-test | 40 | 62.45 | 9.51 | 7.94 | 0.01 |
| 2 | Post-test | 40 | 83.83 | 14.13 | | |

**Significant level 0.05 = 1.99**
**0.01 = 2.63**

The findings related to mental health reveal a significant difference between the pre-menstrual and post-menstrual phases among young women. The mean score of mental health in the pre-test was 62.45 (SD = 9.51), while the mean score in the post-test was 83.83 (SD = 14.13). The obtained t-value was 7.94, which is significant at the 0.01 level. This indicates that mental health is comparatively poorer during the pre-menstrual phase and significantly improves during the post-menstrual phase. Therefore, the null hypothesis was rejected, showing that the menstrual phase has a significant influence on mental health.

Poorer mental health during the pre-menstrual phase may be attributed to hormonal imbalance, emotional sensitivity, and increased psychological stress. Hormonal changes can lead to anxiety, mood swings, low energy, irritability, and reduced emotional resilience. Physical discomfort and negative thoughts during this phase may further disturb emotional balance and psychological well-being. On the other hand, the post-menstrual phase is associated with emotional relief, hormonal stabilization, and improved psychological functioning, which contributes to better mental health.

**Graphical Presentation of Mean Score of young women in Mental Health**




**Showing the effect of menstrual cycle on mental health**

| | |
|---|---|
| **Pre** | 62.45 |
| **Post** | 83.83 |
| **Change** | 21.38 |

The table shows that the mean mental health score before menstruation (Pre) was 62.45, and after menstruation (Post) it was 83.83. The mean difference of 21.38 indicates that mental health was lower before menstruation and improved after menstruation. This suggests that the menstrual cycle influences mental health among young women.

**Result table:4 showing the mean and correlation of aggression and impulsiveness**

| Sr no. | Variables | N | Mean | S.D. | r |
|---|---|---|---|---|---|
| 1 | Aggression | 80 | 79.61 | 21.86 | 0.25 |
| 2 | Impulsiveness | 80 | 17.61 | 5.10 | |

**Significant level 0.05 = 0.16**
**0.01 = 0.21**

The results presented in Table 4 show the mean scores and correlation between aggression and impulsiveness among young women. The mean score of aggression was 79.61 (SD = 21.86), while the mean score of impulsiveness was 17.61 (SD = 5.10). The obtained correlation coefficient (r = 0.25) indicates a positive relationship between aggression and impulsiveness. This correlation is significant at the 0.01 level (critical value = 0.21). The positive correlation suggests that higher impulsiveness is associated with higher levels of aggressive behavior among young women.

**Result table:5 showing the mean and correlation of aggression and mental health**

| Sr no. | Variables | N | Mean | S.D. | R |
|---|---|---|---|---|---|
| 1 | Aggression | 80 | 79.61 | 21.86 | -0.29 |
| 2 | Mental health | 80 | 73.14 | 16.09 | |

**Significant level 0.05 = 0.16**
**0.01 = 0.21**

The results presented in Table 5 show the mean scores and correlation between aggression and mental health among young women. The mean score of aggression was 79.61 (SD = 21.86), whereas the mean score of mental health was 73.14 (SD = 16.09). The obtained correlation coefficient (r = –0.29) indicates a negative relationship between aggression and mental health. This correlation is significant at the 0.01 level. The negative correlation suggests that higher levels of aggression are associated with poorer mental health, whereas better mental health is associated with lower aggression among young women.

**Result table:6 showing the mean and correlation of impulsiveness and mental health**

| Sr no. | Variables | N | Mean | S.D. | r |
|---|---|---|---|---|---|
| 1 | Impulsiveness | 80 | 17.61 | 5.10 | -0.27 |
| 2 | Mental health | 80 | 73.14 | 16.09 | |

**Significant level 0.05 = 0.16**
**0.01 = 0.21**

The results presented in Table 6 show the mean scores and correlation between impulsiveness and mental health among young women. The mean score of impulsiveness was 17.61 (SD = 5.10), while the mean score of mental health was 73.14 (SD = 16.09). The obtained correlation coefficient (r = –0.27) indicates a negative relationship between impulsiveness and mental health. This correlation is significant at the 0.01 level. The findings suggest that higher impulsiveness is associated with poorer mental health, whereas better mental health is related to lower impulsive behavior.

## V. Conclusion

There was a significant difference in Aggression between the pre- and post-menstrual phases, found to be 16.33 (difference in means), with a t-value of 9.56 which was significant at the 0.01 level. So, the hypothesis made earlier in the research is rejected here.

There was a significant difference in Impulsiveness between the pre- and post-menstrual phases, found to be 7.03 (difference in means), with a t-value of 8.49 which was significant at the 0.01 level. So, the hypothesis made earlier in the research is rejected here.

There was a significant difference in Mental Health between the pre- and post-menstrual phases, found to be 21.38 (difference in means), with a t-value of 7.94 which was significant at the 0.01 level. So, the hypothesis made earlier in the research is rejected here.

There was a positive correlation (r = 0.25) between Aggression and Impulsiveness, which was significant at the 0.05 level.

There was a negative correlation (r = -0.29) between Aggression and Mental Health, which was significant at the 0.01 level.

There was a negative correlation (r = -0.27) between Impulsiveness and Mental Health, which was significant at the 0.05 level.

**Limitations of the Research**

The study has several limitations that can be addressed by future research. First, in the present research, only 80 samples (40 participants measured twice) have been selected from a large pool. Hence, the results obtained cannot be broadly generalized to the entire population. The present research included only young women, and therefore the findings may not apply to women in different age groups or those experiencing different stages of the reproductive cycle. In the present research, only the questionnaire method has been used for data collection. No other methods like clinical observation, interviews, or other scientific biological markers have been used to track hormonal changes. Furthermore, no attempt has been made here for a comparative study by distinguishing between young women from different socio-economic backgrounds, rural and urban areas, or different lifestyle habits, which could also influence aggression, impulsiveness, and mental health during the pre- and post-menstrual phases.

**Suggestion for future research**

In the present research efforts should be made to obtain more robust results by expanding the sample size so that the obtained results can be broadly generalized. Questionnaire method itself for data collection in the present research was used; apart from this method, clinical observation or interview methods can be studied to gain deeper insights into psychological changes. In the present research only, young women have been researched; future studies can be done on women from different age groups as well as a comparative study between urban and rural young women. T-test and method of correlation ‘r’ was used for data analysis in the present research. Apart from this, other advanced statistical methods or longitudinal research designs can be used to track behavioral patterns over several consecutive menstrual cycles.

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