

Impact of Different Phases of Menstruation on Degree of Pain in Female Players

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Abstract

The purpose of the study was to examine the Degree of Pain during Luteal Phase, Menstrual Phase & Follicular Phase of Female Players. Another objective of the study was to find out whether there was any significant difference among Luteal Phase, Menstrual Phase & Follicular Phase of Female Players in relation to Degree of Pain. **Methodology:** For the purpose of this study, 31 unmarried female players were selected. The subjects selected for this study were associated with different sports and were studying in Banaras Hindu University. The age of the subjects ranged between 20 to 25 years with having normal menstrual cycle of 28 ± 2 . The subjects of the study neither taking medications nor under any medical treatment. **Menstrual Distress Questionnaire** which was developed by **Rudolf H. Moos** was used to find out the Degree of Pain in different phases of menstruation in female players. Menstrual Distress Questionnaire was used under the following phases of menstruation cycle: (a) Menstrual phase (2nd day of menstruation) (b) Follicular phase (11th day from the menstruation starts) (d) Luteal phase (22nd Day from the menstruation starts). **Results:** Significant difference was found among Luteal Phase, Menstrual Phase & Follicular Phase of Female Players in relation to Degree of Pain. Severity of Degree of Pain was highest during menstrual Phase. The sensitivity of Degree of Pain should be taken into consideration while planning training programme as well as should be clinically treated during menstrual phase. **KEYWORDS:** Pain, Menstrual Phase, Follicular Phase & Luteal Phase.

Introduction

The term menstruation describes the periodic discharge of the endometrium of the uterus (uterine lining) as menstrual blood and tissue. This sloughing of the uterine lining, lasting approximately five days, is often referred to by women as their period (Steele, 1997). Menstruation, or the menstrual period, is only one of several events that occur during the longer, ongoing process known as the menstrual cycle. The most commonly reported changes involve pain symptoms during the menstrual period—a condition known as dysmenorrhea may be classified as primary (occurring in the absence of pelvic abnormality) or as secondary (occurring with the presence of pelvic abnormality) (Willson et al., 1966). Because the presence of pelvic abnormality is a confounding factor in identifying pain symptoms and establishing symptom causation, secondary dysmenorrhea is not the focus of this discussion. As noted earlier, during the premenstrual phase (just prior to menstruation), prostaglandins stimulate the uterine muscles to contract so that the decomposed endometrium may be barred. When prostaglandins are present in unusually high concentrations, the contractions of the uterus are more. Moreover, the spasms in the blood vessels intermittently restrict blood flow, causing a decrease in oxygen supply to the muscle. This series of events, similar to those inducing labor contractions, has been linked to menstrual pain. Gynecologist Veronica A. Ravnkar contends that “a painful period is like a mini heart attack of the uterus, where

blood to the uterine muscle gets cut off". Dysmenorrhea is often reported more specifically as lower abdominal pain, pelvic pain, cramping, backaches, headache or migraine, bladder irritability, pallor or fainting, and pain in the thigh muscles-symptoms that are occasionally come with by nausea, vomiting, and. While Asso (1983) maintains that there is considerable evidence to support that pain symptoms are at their worst during menstruation, pain symptoms are also reported before and after the menstrual period. The premenstrual pain experienced prior to menstruation may include dull pain in the lower abdomen, feelings of fullness, headache, breast tenderness, and fluid retention. As the follicle ruptures and releases the egg it has developed, a little blood may be expelled into the abdominal cavity. This blood is irritating to the abdomen and may cause the acute mid-cycle pain, although it is not known definitively and other factors may play a causative role. Other symptoms such as backache and bloating may accompany the abdominal pain (Asso, 1983) and, if follicular bleeding is excessive, pain symptoms may be as severe as to mimic acute appendicitis. In the present study the curiosity of the investigator has taken an initiative to find out the psychological status of females players during menstrual phase, follicular phase and luteal phase of menstruation cycle with lots of effort. So at last we can say that pain occurs because of Physiological changes in different phases of menstruation cycle. Numerous studies confined the menstrual pain is a huge obstruction in female sports performance. But it is also justified in various studies that with suffering these kinds of psychological problem female athletes had given their best performance during menstrual phase. By keeping in mind the above mentioned changes here the investigator is trying to find out the degree of pain during different phases of Menstruation i.e. Luteal Phase, Menstrual Phase & Follicular Phase in Female Players.

Objectives of the study:

1. To examine the Degree of Pain during Luteal Phase, Menstrual Phase & Follicular Phase of Female Players.
2. Another objective of the study was to find out whether there was any significant difference among Luteal Phase, Menstrual Phase & Follicular Phase of Female Players in relation to Degree of Pain.

Significance of the study:

1. The study will be helpful for developing understanding in coaches and trainers to design a program and take a precaution during competition.
2. The sensitivity of degree of Menstrual Degree of Pain should be taken into consideration while planning training programme as well as should be clinically treated.
3. The study will be helpful in imparting the instruction to the women candidates during their menstrual phase for the motivation and elimination of distress feelings which was caused by Menstrual Degree of Pain.

Research Methodology:

For the purpose of this study, 31 unmarried female players, associated with different sports and studying in Banaras Hindu University were voluntarily selected as subjects. The age of the subjects ranged between 20 to 25 years with having

normal menstrual cycle of 28 ± 2 . The subject of the present study neither taking any kind of medications nor under any medical treatment. The subject suffering from Dysmenorrhea was excluded from this study.

Selection of Variables

Dependent Variable: - Degree of Pain (Measured by Menstrual Distress Questionnaire)

Independent Variable: - Menstrual Phase, Follicular Phase & Luteal Phase.

Design of the Study

Time series design was used. The time series design has only one group but attempts to show change that occurs when the test/ treatment is administered differs from the times when it is not.

Collection of Data

Degree of Pain was measured through **Menstrual Distress Questionnaire** were taken under the following phases of menstruation cycle:

- (a) Menstrual phase (2nd day of menstruation)
- (b) Follicular phase (11th day from the menstruation starts)
- (d) Luteal phase (22nd Day from the menstruation starts)

Administration of Test

All the subjects received an explanation of nature and purpose of the study and gave their formal written consent to participate in the present study. Prior to obtain data, the subjects were asked to give completed self made questionnaire regarding their medical history, medications, current health conditions and menstrual cycle which was prepared with the help of expert. All subjects were asked to submit their report on regular menstrual cycles for last three cycles. Utmost care was also taken to obtain clinical based data regarding their health status to maintain research decorum. The subject suffering from Dysmenorrheal problem was excluded from this study. None of them were diagnosed clinically with Diabetes mellitus, Hypertension, Cardiovascular diseases or any other systemic disorders. Investigator also made a request to all volunteers for not taking any kind of medication during study without prior information to the scholar. Cases of irregular periods, chronic disease and with history of drug affecting the menstrual cycle were strictly not included.

Statistical Technique for the Analysis of Data

The below mentioned statistical technique was used to fulfill the need of objectives of the study:

1. Descriptive Statistics
2. One way Analysis of Variance(ANOVA)

Results & Findings

Table 1: Descriptive Statistics of Degree of Pain among Luteal Phase, Menstrual Phase and Follicular Phase

	Luteal Phase	Menstrual Phase	Follicular Phase
Mean	42.4839	61.5484	50.3871
Standard Error	1.16939	3.70290	2.05655
Standard Deviation	6.51087	20.61688	11.45041
Minimum	35.00	34.00	40.00
Maximum	61.00	109.00	79.00
Count	31	31	31

It is evident from table-1 that mean scores of Luteal Phase, Menstrual Phase and Follicular Phase in relation to Degree of **Pain** are 42.4839, 61.5484, 50.3871; standard deviation scores are 6.51087, 20.61688, 11.45041 and Standard error scores are 1.16939, 3.70290, and 2.05655 respectively.

To find out whether there was any significant difference among Luteal Phase, Menstrual Phase & Follicular Phase of Menstruation Cycle in relation to Degree of Pain, One Way Analysis of Variance was applied and the Data are presented in Table-2

Table-2:-Significant Difference of Degree of Pain among Luteal Phase, Menstrual Phase and Follicular Phase

Source of variance	df	Sum of Squares	Mean Squares	F ratio
Between Groups	2	5688.409	2844.204	14.255*
Within Groups	90	17956.774	199.520	
Total	92	23645.183		

* Significant at 0.05 level of significance, $F_{0.05}(2, 90) = 3.10$

Table- 2 reveals that there is a significant difference among Luteal Phase, Menstrual Phase & Follicular Phase in relation to Degree of Pain, as obtained F-ratio value is 14.255, which is greater than the tabulated value of 3.10, required for F-ratio to be significant at 0.05 level with (2,90) degree of freedom.

Since the One Way Analysis of Variance is found significant in relation to Degree of Pain, the least significant difference Post Hoc Test (LSD) is applied to find out the differences of the paired means among Luteal Phase, Menstrual Phase and Follicular Phase.

To find out the least significant difference Post Hoc Test (LSD) is applied to find out the differences of the paired means among Luteal Phase, Menstrual Phase and Follicular Phase of Menstruation Cycle of Female Players, mean difference are presented in Table No.3

Table-3:-Table of Multiple Comparisons of Degree of Pain among Luteal Phase, Menstrual Phase and Follicular Phase

(I) group	(J) group	Mean Difference (I-J)	Critical Value
Luteal Phase	Menstrual Phase	-19.06452*	7.103
	Follicular Phase	-7.90323*	
Menstrual Phase	Follicular Phase	11.16129*	

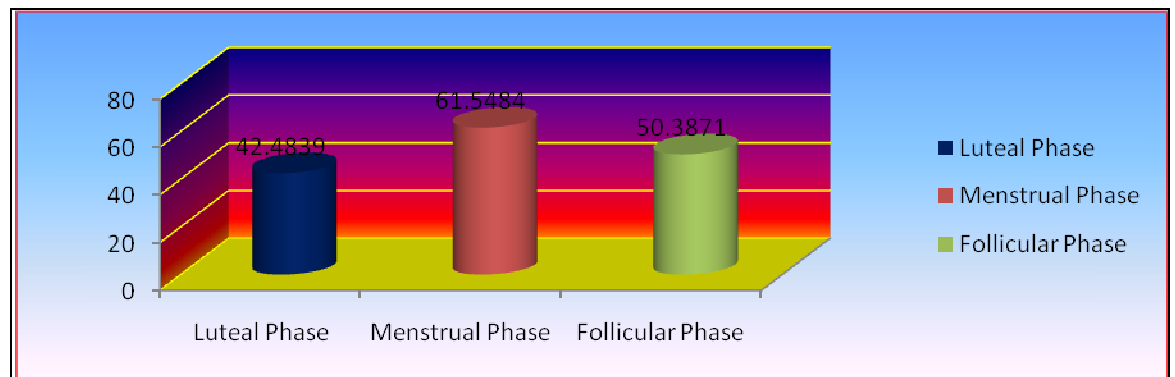
* The mean difference is significant at the 0.05 level.

It is evident from the Table -5 that there is a significant Difference between the mean scores of Luteal Phase & Menstrual Phase; Luteal Phase & Follicular Phase; Menstrual Phase and Follicular Phase.

Thus it is evident that Degree of Pain of Menstrual Phase > Follicular Phase > Luteal Phase.

- ❖ Degree of Pain in Luteal Phase < Menstrual Phase, as $p < 0.05$, Mean Difference in Luteal Phase & Menstrual Phase = -19.06452*; Critical Value = 7.103
- ❖ Degree of Pain in Luteal Phase < Follicular Phase, as $p < 0.05$, Mean Difference in Luteal Phase & Follicular Phase = -7.90323*; Critical Value = 7.103
- ❖ Degree of Pain in Menstrual Phase > Follicular Phase, as $p < 0.05$, Mean Difference in Menstrual Phase & Follicular Phase = 11.16129*; Critical Value = 7.103

Figure No. 1:-Mean Value of Luteal Phase, Menstrual Phase & Follicular Phase of Menstruation Cycle in relation to Degree of Pain



Discussions of Findings

With the abovementioned statistical findings Degree of Pain was found a high severity during Menstrual Phase in comparison to Luteal & Follicular Phase in female players. The Degree of Pain that is present during menstrual phase can be attributed to the fact that, the presence of pelvic abnormality is a confounding factor in establishing Degree of Pain symptoms among all the female. During the premenstrual phase (just prior to menstruation), prostaglandins stimulate the uterine muscles to contract so that the disintegrating endometrium may be expelled. When prostaglandins are present in

unusually high concentrations, the contractions of the uterus are more frequent. Moreover, the spasms in the blood vessels intermittently restrict blood flow, causing a decrease in oxygen supply to the muscle. This series of events, similar to those inducing labor contractions, has been linked to menstrual Degree of Pain. The similar studies has also reported in the line of **Asso (1983)**, who has also maintained that there is considerable evidence to support that Degree of Pain symptoms are at their worst during menstruation, Degree of Pain symptoms are also reported before and after the menstrual period. As the Participants of the present study were players and regularly involved in strenuous physical activity. Their abdominal muscles were more flexible as compared to the non sports female. So the sports female can feel low intensity of cramping and pain in their Menstrual Pain when we made comparison between the non sports females.

Conclusions:

The sensitivity of Degree of Pain during different phases of Menstruation should be taken into consideration while planning training programme as well as should be clinically treated during menstrual phase.

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