



ANALYSIS OF KINAESTHETIC PERCEPTION AMONG NATIONAL LEVEL OF FEMALE PLAYERS IN RELATION TO DIFFERENT PHASES OF MENSTRUAL CYCLE

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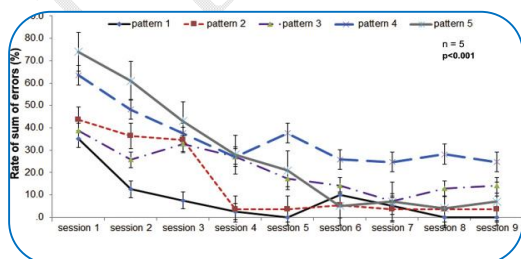
ABSTRACT :

Menstrual discharge is composed of the endometrium itself, together with a little fresh blood caused by the breaking of very fine blood vessels within; the endometrium as it detaches itself from the inside of the uterus. **Objectives of the study:** 1) To analyze the Kinaesthetic perception during Menstrual Phase, follicular phase, ovulation phase, luteal Phase of Uterine changes during menstrual cycle in female players. 2) To find out whether there were any significant difference among Menstrual Phase, follicular phase, ovulation phase, luteal Phase during menstrual cycle in relation to Kinaesthetic perception. **Materials and Methods:** - Fifty (50) national levels female players were selected randomly who have regular menstrual cycle further they were selected from different sports i.e. Hockey, Badminton, Cricket, Football and Volleyball. Data were collected in different phases of menstrual cycle i.e. Menstrual Phase, Luteal phase, Ovulatory phase and Follicular phase. Age of female athletes ranged between 17 to 25 years. Kinaesthetic obstacle test was used to measure the kinaesthetic perception. Descriptive statistics, One Way Analysis of variance was employed to analyze data. **Results:** - Mean and SD value of Menstrual Phase, Follicular Phase, Ovulatory Phase and Luteal Phase were having 64.00 ± 10.08 , 85.75 ± 7.81 , 91.00 ± 7.44 , 73.25 ± 11.41 respectively. Significant difference was found among Menstrual Phase, follicular phase, ovulation phase and luteal Phase of Uterine changes because calculated F value 68.43 was greater than the tabulated value and also P value found less than .05. **Conclusions:** 1) Significant difference was found among four phases i.e. Menstrual Phase, Luteal phase, Ovulatory phase and Follicular in relation to kinaesthetic perception. 2) Kinesthetic Perception of National female players in Ovulatory phase were greater than in comparison to Follicular phase, Luteal phase, Menstrual phase.

KEYWORDS : Kinaesthetic perception, Follicular phase, Luteal phase, Menstrual phase, Ovulatory phase.

INTRODUCTION:

The amount extending from the start of a period (menses) to the start of subsequent one is named cycle, the primary flow (menarche) happens between 11-15 years with a mean of thirteen years. It's a lot of closely associated with age than to age. For the past number of decades, the age of start is step by step declining with improvement of nutrition and condition. Once the flow starts, it continues cyclically at intervals of 21-35 days with a mean of twenty eight days. Physiologically, it's unbroken suspended thanks to maternity and lactation. Ultimately, it ceases between the ages 45-50 once biological time sets in [1]. The cyclic hormonal changes that regulate the cycle are a major biological influence on the feminine body, one with each



physical and emotional ramifications. Menstruation is ruled by tightly muscular organisation changes within the levels of gonad sex hormone and progesterin in that manufacture variable responses in various tissues and organs. The skin, the biggest organ within the body, is replete with sex hormone receptors (in each stratum and epidermis) and to a lesser extent, progesterin receptors. Cyclically unsteady levels of sex hormone and progesterin influence varied characteristics of the stratum, together with skin surface lipid secretion and secretion production, skin thickness, fat deposition, skin association, and barrier perform [2]. "The things that some women associate with the menstrual cycle, like fatigue or bloating or general lethargy, are hard to measure. And even if we could measure them, it's then difficult to say that it's just one or a combination of those symptoms and other internal or external factors that may affect performance [3].

OBJECTIVES OF THE STUDY

- 1) To characterize the Kinaesthetic perception during Menstrual Phase, follicular phase, ovulation phase, luteal Phase of Uterine changes during menstrual cycle in female players.
- 2) To find out whether there were any significant difference among Menstrual Phase, follicular phase, ovulation phase, luteal Phase during menstrual cycle in relation to Kinaesthetic perception.

MATERIALS AND METHODS

For purpose of the study 50 national level female players were selected who have regular menstrual cycle they was selected from different sports that was hockey, badminton, cricket, football and volleyball. Data was collected in different phases of menstrual cycle .there age ranged between 17 to 25 years. Kinaesthetic perception variable was selected for the purpose of the study. To measure the kinaesthetic perception Stork stand test was used.

ANALYSIS AND INTERPRETATION OF DATA

To compare Kinaesthetic perception among Different Phases of Menstrual Cycle analyzed by descriptive statistics [4] as well as ANOVA [5]. To find out the pair-wise comparisons, Post hoc Tukey test was applied .Descriptive statistics of data and Annova are presented in table-1

Table No. 1

Comparison of mean kinaesthetic perception between the four phases – Menstrual, Follicular, Ovulatory and Luteal Phase

Phase	No.	Kinaesthetic perception [Mean \pm SD]	F value	P value
Menstrual Phase	40	64.00 \pm 10.08	68.43	0.000*
Follicular Phase	40	85.75 \pm 7.81		
Ovulatory Phase	40	91.00 \pm 7.44		
Luteal Phase	40	73.25 \pm 11.41		

One-way ANOVA applied, P value = 0.001, Significant

The above table shows the comparison of mean kinesthetic perception between the four phases – Menstrual Phase, Follicular Phase, Ovulatory Phase and Luteal Phase.

The mean kinaesthetic perception in the menstrual phase was 64.00 \pm 10.08, in the follicular phase it was 85.75 \pm 7.81, in ovulatory phase it was 91.00 \pm 7.44 and in the luteal phase it was 73.25 \pm 11.41. There was a statistically significant difference seen in the kinaesthetic perception between the four groups (P<0.05).

To find out the pair-wise comparisons, Post hoc Tukey test was applied.

Post-hoc Tukey:

Pairs	t value	P value	Interpretation
Follicular phase to Menstrual phase	10.43	0.000*	Significant
Ovulatory phase to Menstrual phase	12.94	0.000*	Significant
Luteal phase to Menstrual phase	4.43	0.000*	Significant
Ovulatory phase to Follicular phase	2.52	0.061	Not significant
Luteal phase to Follicular phase	-5.99	0.000*	Significant
Luteal Phase to Ovulatory phase	-8.51	0.000*	Significant

* Significant

The post-hoc test was applied between the pairs - Follicular phase to Menstrual phase; Ovulatory phase to Menstrual phase; Luteal phase to Menstrual phase; Ovulatory phase to Follicular phase; Luteal phase to Follicular phase and Luteal Phase to Ovulatory phase.

There was a statistically significant difference seen in the pair Follicular phase to Menstrual phase ($P < 0.05$), showing a higher kinesthetic perception in the follicular phase in comparison to the menstrual phase.

There was a statistically significant difference seen in the pair Ovulatory phase to Menstrual phase ($P < 0.05$), showing a higher kinesthetic perception in the ovulatory phase in comparison to the menstrual phase.

There was a statistically significant difference seen in the pair Luteal phase to Menstrual phase ($P < 0.05$), showing a higher kinesthetic perception in the luteal phase in comparison to the menstrual phase. There was no statistically significant difference seen in the pair Ovulatory phase to Follicular phase ($P > 0.05$), showing a comparable kinesthetic perception in both the groups.

There was a statistically significant difference seen in the pair Luteal phase to Follicular phase ($P < 0.05$), showing a higher kinesthetic perception in the follicular phase in comparison to the luteal phase.

There was a statistically significant difference seen in the pair Luteal phase to Ovulatory phase ($P < 0.05$), showing a higher kinesthetic perception in the ovulatory phase in comparison to the luteal phase. Kinesthetic perception was seen during in the following manner:

Ovulatory phase > Follicular phase > Luteal phase > Menstrual phase

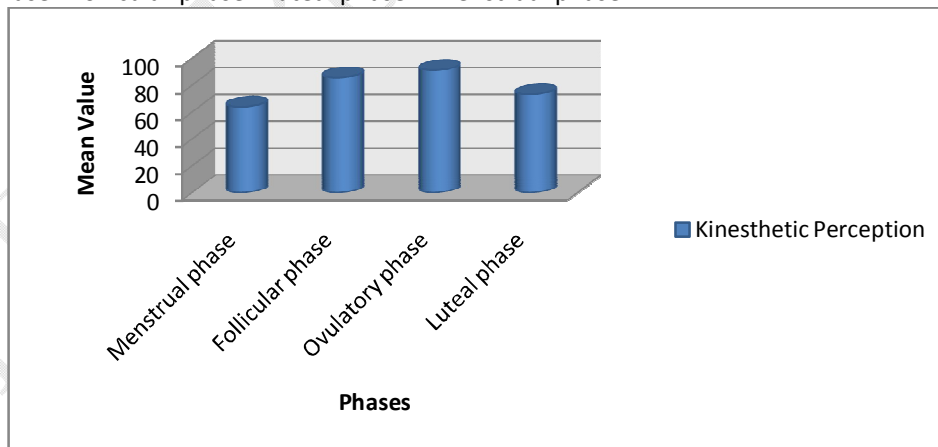


Fig1: Bar diagram showing comparison of kinaesthetic perception between the four phases

DISCUSSION OF FINDINGS

On the basis of result it was concluded that there was significant difference among four groups namely menstrual phase, follicular phase, ovulatory phase, luteal phase in relation to kinaesthetic

perception and ovulatory phase has greater mean in comparisons to the mean value of follicular, luteal phase and menstrual phase. This might be due to estrogens concentration during ovulatory phase, high estrogen concentration positively impact on static balance while it may be vary in respect of dynamic balance. **Nirmala Natarajan, Karthika Priya Dharshni, Kavitha Ukkirapandian (2014)** conducted study on brain stem auditory evoked response during different phases of menstrual cycle and concluded that female sex hormones do affect the central auditory pathway in menstrual cycle. The present study was supported the study conducted by **Nirmala Natarajan, Karthika Priya Dharshni, Kavitha Ukkirapandian (2014) [6]**.

CONCLUSIONS:

- Significant difference was found among four phases i.e. Menstrual Phase, Luteal phase, Ovulatory phase and Follicular in relation to Kinaesthetic perception.
- Kinaesthetic perception of National female players in Ovulatory phase was greater than in comparison to Follicular phase, Luteal phase, Menstrual phase.

REFERENCES

- 1) D.C. Dutta (2011), "book of gynaecology"
- 2) Farage MA "Physiological changes associated with menstrual cycle" *ObstetgynecolSurv.*
- 3) James mcIntosh " Does the menstrual cycle affect sporting performance" Wednesday 22 July 2015
- 4) Clark, H. H., & Clark, D. H. (1975). *Research process in physical education*. Englewood cliffs, New Jersey: Prentice Hall, Inc.
- 5) Garrett, H.E. (1981). **Statistics in psychology and education**. New York: Vakils Feffer and Simon Ltd.
- 6) Nirmala natrajan (2014), "Brain stem auditory evoked response during different phases of menstrual cycle"*internation journal of medical science and public health*, vol-3, ISSUE 6.