



## Influence of Menstrual Cycle Phases on Blood Pressure among Women Kho - Kho Players

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### Abstract

*The purpose of the study was to find out the effect of menstrual cycle phases on blood pressure in performers of women kho – kho players were investigated. Physical activity is an important ingredient in the quality of life because it increases energy and promotes physical, mental and psychological well being in addition to conferring worthy health habits. Sports have permeated most of our social institutions, including education, economic, art, politics, law, mass communications etc. In the present day sports have developed very much. The menstrual cycle is governed by hormonal changes. These changes can be altered by using hormonal birth control to prevent pregnancy. Each cycle can be divided into three phases based on events in the ovary (ovarian cycle) or in the uterus (uterine cycle).Scientific tools and technique have replaced the traditional mode of selection and the training. In the past, selection of the players of the Kho-Kho was done from the subjective observation of performance. Recent researchers have revealed that not only the performance of the players but also the anthropocentric, physical and physiological conditions do contribute a vital role in an overall success of the team.*

**Keywords:** Kho-Kho Players, Systolic Blood Pressure, Diastolic Blood pressure, Menstrual phase, proliferate phase.

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### Introduction

Physical inactivity is considerably more dangerous than physical activity. A healthy person has been defined as an individual who is not obviously ill and whose physical and mental functions correspond to those of the average person in the same age group at the same period of time. Millions of people take part and many more millions around the world are interested to know about sports performance through the media. It is due to the important of facilities and equipment development of modern training methods and adoption of sports training on more scientific lines. Sports and recreations are considered as part and parcel of civilized modern life. Sports and games offer opportunity to develop knowledge, self-expression, personal achievements, demonstration ability, social interactions, enjoyment, good health and well-being. Through participation in sports and games, children and youth get ample opportunities to improve citizenship, leadership, self-discipline, sociability and co-operation. According to Cozen and Stumpf says that sports and games are the touching stones for understanding how people live, work and think and also serve as a barometer of nation's progress in civilization. In order to form an estimation of the character of any particular people it is absolutely necessary to investigate about their sports Some women therefore

tend to be reluctant to sign up for anything over an extended period of time, believing it would be selfish to do so. Women tend to earn less than men. This is a particular problem for women with young children, elderly women, women and girls with disabilities, and women and girls living in rural areas. Participation rates among women and girls are much lower than men's. The many reasons for this gender gap can be grouped as practical, personal and social and cultural. Women tend to have less leisure time than men as they take on the greater burden of responsibility for housework, childcare and care of elderly or infirm relatives. Some women therefore tend to be reluctant to sign up for anything over an extended period of time, believing it would be selfish to do so. Women tend to earn less than men. This is a particular problem for women with young children, elderly women, women and girls with disabilities, and women and girls living in rural areas. The ovarian cycle consists of the follicular phase, ovulation, and luteal phase whereas the uterine cycle is divided into menstruation, proliferative phase, and secretory phase. Sharma P, Malhotra C, Taneja DK, Saha R 2008 says that Eumenorrhoea denotes normal, regular menstruation that lasts for a few days (usually 3 to 5 days, but anywhere from 2 to 7 days is considered normal). The average blood loss during menstruation is 35 milliliters with 10–80 ml considered normal. Women who experience Menorrhagia are more susceptible to iron deficiency than the average person. An enzyme called plasmin inhibits clotting in the menstrual fluid. Weschler, Toni 2008 says that The proliferative phase is the second phase of the

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uterine cycle when estrogen causes the lining of the uterus to grow, or proliferate, during this time. As they mature, the ovarian follicles secrete increasing amounts of estradiol, and estrogen. The estrogens initiate the formation of a new layer of endometrium in the uterus, histologically identified as the proliferative endometrium. The estrogen also stimulates crypts in the cervix to produce fertile cervical mucus, which may be noticed by women practicing fertility awareness.

**Methodology**

This study influence of menstrual cycle phases on Blood Pressure among women kho – kho players were investigated. To achieve this purpose, Thirty women kho – kho players from Sri Sarada College for Women ,Salem, Tamilnadu were randomly selected as subjects and their age ranged from 19 to 24 years. All the subjects of the group was tested on systolic and diastolic blood pressure of menstrual phase and proliferative Phase. The instrument used to measure blood pressure is called a Sphygmomanometer. The blood pressure cuff is snugly wrapped around the upper arm, positioning it so that the lower edge of the cuff is 1 inch above the bend of the elbow. The head of the stethoscope is placed over a large artery then air is pumped into the cuff until

circulation is cut off, then air is let out slowly. Air is pumped into the cuff until circulation is cut off; when a stethoscope is placed over the cuff, there is silence. Then as the air is slowly let out of the cuff, blood begins to flow again and can be heard through the stethoscope. This is the point of greatest pressure (called Systolic), and is usually expressed as how high it forces a column of mercury to rise in a tube. At its highest normal pressure, the heart would send a column of mercury to a height of about 120 millimeters. At some point, as more and more air is let out of the cuff, the pressure exerted by the cuff is so little that the sound of the blood pulsing against the artery walls subsides and there is silence again. This is the point of lowest pressure (called Diastolic), which normally raises the mercury to about 80 millimeters.

**Result & Discussion**

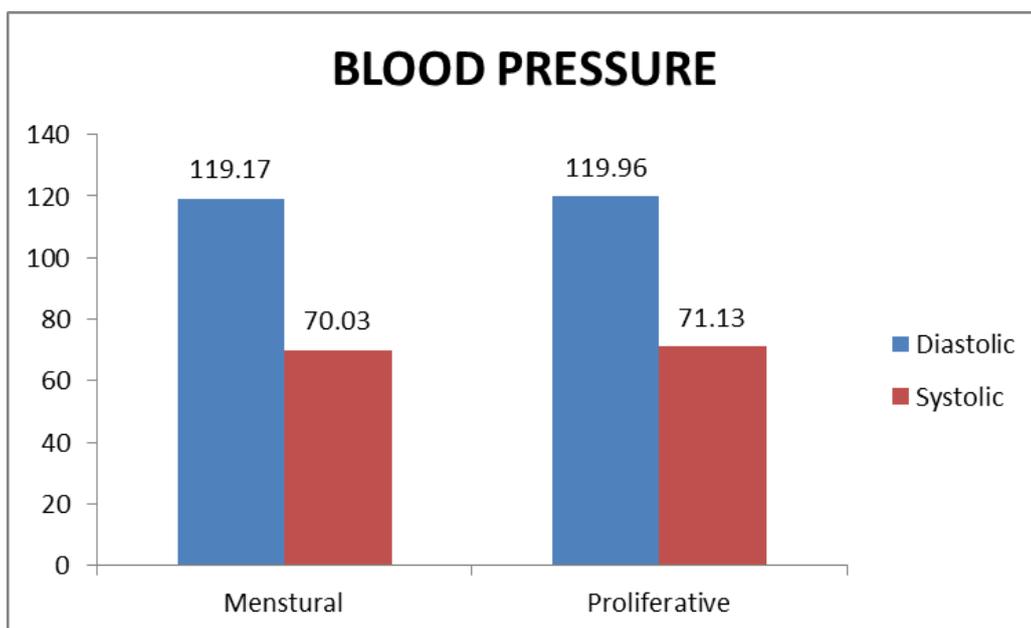
The primary objective of the paired ‘t’ ratio was to describe the difference between Menstrual Phase and Proliferate Phase in Diastolic and Systolic Blood Pressure.

Table 1

Showing mean difference of menstrual and proliferative phase among women kho - kho players in their diastolic and systolic blood pressure

Blood Pressure	Phase	N	Mean	SD	t- Value	Significant /NS Level
Diastolic	Menstrual	30	119.17	1.08	2.75	S
	Proliferate		119.96	1.18		
Systolic	Menstrual		70.03	2.29	2.07	S
	Proliferate		71.13	1.79		

Required table value : 1.98 (0,05)



It is obvious fact from that kho-Kho has significant in Diastolic and Systolic Blood pressure in Menstrual and Proliferate phase. As the mean value of Diastolic in Menstrual phase is 119.17 and Proliferate phase is 119.96. The Proliferate phase is greater than the Menstrual Phase in Diastolic Blood Pressure. The examination of the table indicates that the obtained 't' ratio was 2.75 for Diastolic Blood Pressure and as the mean value of Systolic in Menstrual Phase is 70.03 and Proliferate Phase is 71.13. In this mean value Proliferate Phase is greater than the Menstrual Phase in Systolic Blood Pressure. The examination of the table indicates that the obtained 't' ratio was 2.07 for Systolic Blood Pressure respectively. The obtained 't' ratio was found greater than the required table value of 1.98 at 0.05 level of significance for 29 degrees of freedom. Hence it were found to be significant.

The proliferate phase is the second phase of the uterine cycle when estrogen causes the lining of the uterus to grow, or proliferate, during this time. As they mature, the ovarian follicles secrete increasing amounts of estradiol, and estrogen. The estrogen initiate the formation of a new layer of endometrium in the uterus, identified as the proliferate endometrium. The estrogen also stimulates crypts in the cervix to produce fertile cervical mucus, which may be noticed by women practicing fertility awareness. Specific fitness enables the player to perform the unusual movements required by the concerned sport, which the non-sportsman does not perform in his everyday routine. Specific fitness however depends a lot on general fitness and this is the reason Women Kho- Kho players have to give equal importance to both general as well as specific fitness, to succeed. The present study will have the significance of self-assessment of motor ability and physiological aspects of women Kho-Kho players during menstrual cycle phases.

### Conclusion

In the game Kho-Kho it is perhaps evident that there is a growing realization of the importance of physiological variables enhancing the health and performance. Therefore, physiological variables, aerobic capacity, body composition receive special consideration and it is an important prerequisite for outstanding performance in speed and endurance sport activity.

### References

1. Acharya Bhagwan Dev, Yoga for Better Health, Diamond Pocket Books – Publishers, 1999.
2. Anuradha, S., Diabetes – The Silent Killer, Delhi: Sahni Publications, 1999.
3. Ardy Fred Berg, The Facts on File Dictionary of Fitness, New York: Facts on File Publications, 1984.
4. Baechle, Thomas R., (ed.), Essentials of Strength Training and Conditioning, Champaign: Human Kinetics, 1994.
5. Bermeyer, H.U., Method of Enzymatic Analysis, (2<sup>nd</sup> ed.), New York: Verlag Chemic Weinheim and Academic Press Inc., 1974.
6. Bucher, Charles A. and Deborah A. Wuest, Foundation of Physical Education and Sports, Saint Louis: Times Mirror/Mosby College Publishing Company, 1987.
7. Heyward, Vivian H., Designs for Fitness: A Guide to Physical Fitness Appraisal and Exercise Prescription, New York: Macmillan Publishing Company, 1989.
8. Howley, Edward T. and B. Don Franks, Health Fitness Instructor's Handbook, (3<sup>rd</sup> ed.), Human Kinetics Publishers, 1997.
9. Johnson, Barry L. and Jack K. Nelson, Practical Measurements for Evaluation in Physical Education, (3<sup>rd</sup> ed.), Surjeet Publications, Delhi, 1988.
10. McArdle, William D., Frank L. Katch and Victor L. Katch, Exercise Physiology – Energy, Nutrition and Human Performance, (3<sup>rd</sup> edn.), Philadelphia: Lea & Febiger, 1991.
11. Powers, Scott K. and Edward T. Howley, Exercise Physiology Theory and Application to Fitness and Performance, (2<sup>nd</sup> ed.) Madison: WCS Brown & Benchmark Publishers, 1994.
12. Ramarao, A.V.S.S., Text Book of Biochemistry, (5<sup>th</sup> ed.), New Delhi: U.B.S. Publishers, 1990.
13. Shaver Larry, G. Essentials of Exercise Physiology, New York: Macmillan Publishing Company, 1981.
14. Singh, Ajmer et al., Essentials of Physical Education Ludhiana: Kalyani Publishers, 2004.