

Comparison between the three phases of Menstrual cycle on the dietary habits and selected Physical Fitness components of National-level Netball players

M.H.A.R. Amaradasa^{1*}, T.S.H. Perera¹, D. Senevirathna², and R.M.K.T. Rathnayaka³

¹Department of Sports Sciences and Physical Education, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka.

²New Mexico Institute of mining and technology, Department of Chemistry, Socorro, New Mexico, USA.

³Department of Physical Sciences and Technology, Faculty of Applied Sciences, Sabaragamuwa university of Sri Lanka, Belihuloya, Sri Lanka.

*aanjalee123@gmail.com

Variations in the dietary habits and the training load are noted among female athletes during their menstrual cycle. Thus, the impact of the menstrual cycle on physical fitness and dietary habits is recognized as an important factor to be considered in women's sports. The present study aimed to investigate the influence of the three phases of the Menstrual Cycle (MC.) on food habits and selected physical fitness components of National-level Netball players. The study was conducted by selecting 32 National level Netball players, aged; 32 ± 14 years, height; 167 ± 21 cm, body weight; 67.5 ± 22.5 kg, Body Mass Index (BMI); 22.27 ± 6.13 kg/m², involving a screening test to select subjects who were not using any regulatory drug during the last two months. The regular MC (28-31 days) of selected athletes was divided into three phases. The test was performed 2-3 days before menstruation and two days after the onset of menstruation, and two days after the end of MC. The eating habits of the athletes were evaluated using the modified Food Frequency Questionnaire (FFQ). A vertical jump test and a leg press 45 ° 5RM test were used to measure the muscle power of the lower limbs and strength respectively. The statistical analysis of the data conducted via one-way ANOVA revealed that there is no significant difference between the three phases of the menstrual cycle with lower limb muscle strength ($p < 0.765$) and power ($p < 0.75$). The Chi-square test conducted for the nutritional and food group values obtained from the three phases concluded that only the Rice-based products were significantly different ($p < 0.05$). It was found that there is no relationship between BMI and the variables of power and strength ($p > 0.01$) as well. In conclusion, there is no significant difference in the selected physical fitness components over the menstrual cycle of the selected National Netball players. Therefore, it is suggested that the training load or eating patterns are not essential to be altered during their MC.

Keywords: Menstrual Pases, Netball, Strength, Power, Dietary Habits