ALTERATION IN SPRINTERS TEMPORAL PATTERNS ON SELECTED FITNESS COMPONENTS DURING NORMAL AND DISTURBED NOCTURNAL SLEEP STATE

***Mahendiran, P. and **Balamurugan, K.V.**

1., 2. Assistant Professor, Department of Physical Education and Sports Sciences, Annamalai University, Chidambaram, **INDIA.**

Email: mahee1981pe@yahoo.co.in

(Received December 1, 2011, accepted December 8, 2011)

ABSTRACT

The present study aims to investigate the alteration in sprinters temporal patterns on selected fitness components during normal and disturbed sleep state. To achieve the purpose ten (10) male sprinters were selected from the Department of Physical Education and Sports Sciences, Annamalai University. These subjects age ranged between 18 to 25 years. The ten sprinters was examined on Speed, Explosive power, Flexibility and Strength endurance on two occasions for 24 hours (00:00, 04:00, 08:00, 12:00, 16:00, 20:00 and 24:00), one during normal nocturnal sleep and the other during disturbed nocturnal sleep. The characteristics of temporal rhythm such as acrophase, amplitude, MESOR and r- values of selected fitness variables were measured by using cosinor win software. The overall mean differences were calculated using paired sample t-test (SPSS 17 version). The result of the study showed a significant MESOR difference on speed ($p < .0001$), explosive power ($p < .0001$), flexibility ($p < .0001$) and strength endurance ($p < .0001$). The rhythmometric analysis showed a significant phase advanced in Speed 15:39 hours, Explosive power 9:56 hours, Flexibility 7:54 hours and Strength endurance 7:54 hours. It can be concluded that disturb sleep during nocturnal can impair sprinting performance in male sprinters. However, sprinters with good nocturnal sleep showed better sprinting performance during daytime.