Effect of Regular Menstrual Cycle on Muscular Strength of Women Volleyball players

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Women experience many physical changes in their bodies due to hormonal level changes during the menstrual cycle. With the variations in levels of estrogen and progesterone have an effect on sport performance like changes in energy sources, effects on various components of physical fitness, body temperature control and psychological changes. The aim of this study was to identify the effect of three phases of the menstrual cycle on muscular strength. Within twelve women Volleyball players in MAS Holdings Mawathagama, Volleyball team selected four players were selected from age twenty to twenty eight (20-28) through a screen test by using a questionnaire because for this study consider about the players with a regular menstrual cycle. They have not used any oral contraceptives for last two months. Subjects were studied through one complete cycle. Muscle strength was tested by push up test, sit up test, half squats test and bench press test. Measurements included a number of repetitions done by subjects for each test.

Testing dates were decided according to the participators' starting dates of the menstrual cycle. The tests were performed in middle day of the three phases of menstrual cycle: follicular, ovulatory and luteal phase. Used ANOVA for statistical analysis and data were analyzed in the Minitab 14. P values for push up test, sit up test, half squat test and bench press were in order 0.683, 0.227, 0.755 and 0.535. Those are more than 0.05. According to the data ANOVA failed to show any significant differences among the strength variables during the three phases of the menstrual cycle.

Only four subjects with regular menstrual cycle were studied for one cycle and using simple strength test were limited the result of the study. Though there are little changes in values and they are there are not statistically significant, regularly menstruating female athletes do not need to adjust their training to their menstrual cycle phase.

Keywords: Menstrual cycle, Muscular strength, Volleyball players