**Original article**

**Influence of menstrual cycle on lung functions in young healthy medical students**

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**ABSTRACT**

**Background:** The dynamic changes in the level of various hormones during different phases of the menstrual cycle are known to affect various functions of the body, apart from the reproductive system. Present study was intended to demonstrate the variation in the pulmonary functions during different (menstrual, luteal and follicular) phases of the menstrual cycle in adolescent girls.

**Material & Methods:** This was a prospective, observational study which was performed at a referral centre in India. Regularly menstruating first year M.B.B.S. adolescent girls admitted to the course were included in the study. Their lung volumes were measured serially during various phases of the menstrual cycle. During the menstrual phases, various parameters were compared.

**Results:** Total 70 girls were enrolled in the study; (mean age – 19.5±8.2 years, mean height -158.1 ±6.8cm and mean weight- 49±7.1 kg) The forced vital capacity (FVC), the forced expiratory volume(FEV1 ), the FEV1/FVC ratio were noticed to be significantly higher during the luteal phase and the lowest during the menstrual phase. The procedure will be repeated for one more cycle .the findings in both the cycle were consistent.

**Conclusions:** The pulmonary functions which were quantified as lung volumes and & capacities were better during the luteal phase of the menstrual cycle, thus suggesting a possible beneficial role of progesterone in the management premenstrual asthma.

**Key Words**: Menstrual phase, Lung functions, Progesterone, Premenstrual asthma, Medical students.