EFFECT OF PREMENSTRUAL SYNDROME ON CARDIOVASCULAR PARAMETERS AND BODY WEIGHT IN FIRST YEAR MEDICAL STUDENTS

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ABSTRACT

BACKGROUND
Every month almost all females face menstruation stress. Premenstrual syndrome is a major clinical entity affecting a large segment of female population. Our aim is to study the effect of premenstrual syndrome on cardiovascular parameters and body weight in first year medical students.

MATERIALS AND METHODS
80 healthy female students between the age of 17 and 22 years during premenstrual and post-menstrual phase were considered for our study. The effect of premenstrual syndrome on cardiovascular parameters [Heart rate, blood pressure] and body weight was studied. Students paired t test was used for statistical analysis.

RESULTS
There was significant increase in heart rate, blood pressure and weight during premenstrual period as compared to postmenstrual period.

CONCLUSION
We observed that the changes are due to salt and water retention brought about by ovarian steroids.

KEYWORDS
Blood Pressure, Heart Rate, Premenstrual Syndrome, Weight.

INTRODUCTION
Premenstrual syndrome (PMS) refers to physical and emotional symptoms that occur in the one to two weeks before a woman’s period. Symptoms often vary between women and resolve around the start of bleeding. Common symptoms include acne, tender breasts, bloating, feeling tired, irritability, and mood changes. Often symptoms are present for around six days. A woman’s pattern of symptoms may change over time.1 Symptoms usually worsen as menstruation approaches and relived at the onset or after several days of menstruation. The common symptoms like headache, tender and enlarged breasts, inability to concentrate in work, irritability, emotional disturbances, mood swings, poor judgment, depression, tension, weight gain, and increased blood pressure have been usually described by many females during premenstrual phase.2 The exact symptoms and their intensity vary significantly from woman to woman, and even somewhat from cycle to cycle and over time.3 Most women with premenstrual syndrome experience only a few of the possible symptoms, in a relatively predictable pattern.3

PMS may vary in intensity, but does not resolve spontaneously, and may fade with pregnancy, oral contraceptives, menopause and inhibition of ovulation. Symptoms may also correlate with parity.4 Premenstrual dysphoric disorder (PMDD) is a more severe form of PMS that has greater psychological symptoms.5 PMDD affects three to eight percent of premenopausal women.1 Our aim is to study the effect of premenstrual syndrome on cardiovascular parameters and body weight in first year medical students.

MATERIALS AND METHODS
Our study was done on 80 apparently healthy female medical students 17 to 22 years of age of our institution. The detailed menstruation history was obtained and premenstrual and postmenstrual phase was calculated. Premenstrual phase was considered from 1 to 7 days prior to the onset of next menstruation and postmenstrual phase as taken from fifth to tenth day of menstrual cycle. The heart rate (Per minute), blood pressure (mm Hg) were recorded around 10-11am by digital sphygmomanometer.

Three readings were taken and the mean of these readings was considered and weight (kg) was recorded by standard weighing scale wearing light clothing. These parameters were measured both during premenstrual and postmenstrual phases. The study was conducted in our research laboratory and students paired “t” test was applied for the readings of each parameter to find the p value.
The prevalence of PMS among the students has been reported to be 99.6% in Jimma university in Ethiopia,9 85.5% in Calabar University in Nigeria,10 and more than 98% in Assumption University.11 According to another study carried out on medical students in Tehran in 1999, the prevalence of PMS is 63.7%.12 Our study findings are similar to the investigations done on the university students in Iran and other countries which show that these symptoms are the most prominent and consistent.

CONCLUSION
We conclude our study with the observation that there is a significant increase in heart rate, blood pressure and weight during premenstrual phase. Females should receive emotional comfort from the family members. The other risk factors for premenstrual syndrome include a history of depression or mood disorders, such as postpartum depression or bipolar disorder and family history of PMS. This should be informed to the women’s physician if persist.

REFERENCES