Abstract
The aim of the study was to evaluate the seric ions level and its relationship with Premenstrual Syndrome (PMS) symptoms in young women. Method: Ninety-three volunteers were monitored for three months. The nutritional status evaluation was based on BMI. Three “maps of daily symptoms” were used to investigate the frequency of the SPM symptoms. The biochemical evaluation was done in the first month in the luteal phase. The levels of sodium, potassium, calcium, magnesium were determined by colorimetric methods. The hemoglobin and hematocrit concentration were determined by conventional methods. Results: The symptoms like anxiety (1,13; 0,81; 0,66), edema (0,99; 0,51; e 0,22), depression (0,58; 0,36; 0,20) and mastalgia (0,56; 0,35; 0,09) were the most evident in the menstrual than luteal and follicular phase. A small number of volunteers presented hypocalemia (1,4%), hyponatremia (4,22%) and hypernatremia (7,04%). However, the higher number of the volunteers presented lower calcium level (83,09%). The frequency of anemic women was high (24%). Significant associations (P < 0.05) were observed between the anxiety symptom and sodium (r = 0,2630); and magnesium and depression (r = 0,2508) and nauseas (r = 2882). Conclusions: The anemia and hypocalcemia is a important nutritional problem. The regulation of the calcium serum level seems to be affected in the luteal phase of the menstrual cycle and the sodium and magnesium ions influence some psychological (anxiety and depression) and gastrointestinal (nausea and constipation) symptoms.

Keywords
Menstrual cycle, Premenstrual syndrome, Ions, Premenstrual symptoms.