**Abstract**

Introduction: Cognitive performances do not remain constant in lifetime, especially in women. Biological factors such as lifetime and changes in sex hormone levels are affected cognitive abilities such as attention, memory, learning and... Methods: Three groups of participants were tested. The first group is immature girls (9-11 years old). The second group is women (20-25 years old) who have completed their maturation. The third group is postmenopausal women (45-55 years old). Directly after the performance of stroop test, a blood sample was collected. Serum levels of estradiol and progesterone were analyzed by ELISA technique. Results: 1- Attention task: Interference effect in the stroop test was significantly greater in postmenopausal women and prepubertal children (p<0.001). That means the performance of attention was lower in these groups. 2- Hormonal results: Estradiol level in prepubertal children was significantly less than the other groups (p<0.001). Progestrone level in postmenopausal women was significantly higher than the other groups (p<0.001). Conclusion: The relationship between estrogen and cognitive performance of attention is significant than other groups.

**Keywords:** key words: Estrogen – Progestrone – Attention – Stroop – Sex hormone