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# ФІЗІОЛОГІЯ МЕДИЦИНІ, ФАРМАЦІЇ ТА ПЕДАГОГІЦІ: «АКТУАЛЬНІ ПРОБЛЕМИ ТА СУЧАСНІ ДОСЯГНЕННЯ»

Тези доповідей
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**ЗМІСТ**

depending on the conditions under which the exercise is performed. When a person performs exercise under tense conditions but uses only a few muscles, the sympathetic nervous response still occurs everywhere in the body. In the few active muscles, vasodilation occurs, but everywhere else in the body the effect is mainly vasoconstriction, often increasingthe mean arterial pressure to as high as 170 mm Hg. Conversely, when a person performs massive whole-body exercise, such as running or swimming, the increase in arterial pressure is often only 20 to 40 mm Hg. This lack of a large increase in pressure results from the extreme vasodilation that occurs simultaneously in large masses of active muscle. Many different physiologic effects occur at the same time during exercise to increase cardiac output approximately in proportion to the degree of exercise. In fact, the ability of the circulatory system to provide increased cardiac output for delivery of oxygen and other nutrients to the muscles during exercise is equally as important as the strength of the muscles themselves in setting the limit for continued muscle work. In this case, the CO may increase by 5-6 times and up to 20 l/min.

**Conclusion.**Regular physical activity is one of the most important things for health. It helps to control weight, reduce risk of cardiovascular disease, reduce risk for type 2 diabetes and metabolic syndrome, reduce risk of some cancers, strengthen bones and muscles, improve mental health and mood, improve ability to do daily activities and increase chances of living longer.

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## VARIATION OF ACTIVITIES OF DIFFERENT PARTS OF CORTEX HEMISPHERES AND CARDIOVASCULAR SYSTEM BETWEEN MALES AND FEMALES DURING STROOP TEST

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**Background.**According to neurophysiology, there is a difference in the levels of the activity of different parts of the cortex hemispheres between males and females, which is manifested by the difference of speed of decision making, and reactivity, accompanied by different levels of physiological changes of some vital signs, such as elevating the heart rate, and blood pressure, as it can be seen in the results of the stroop test.

**Purpose.** To investigate the differences of autonomic supply in males and females, during the state of mental activity using Stroop test.

**Materials and methods.**The study included 20 young adults (19-24 years), among them 10 males and 10 females. Vegetative indicators were selected for studying such as: systolic (SAP) and diastolic (DAP) arterial blood pressure which were studied by Korotkov method (mmHg); heart rate (HR) (bpm) which was calculated on the radial artery pulse, and Dagnini-Aschner (oculocardiac)

reflex which was used to test the differences of reactivity of the autonomic nervous system between both sexes, and stroop test as the state of mental activity.

**Results and discussion**. According to the results the mean HR increases in percentage (18.3%) compared to the meanvalue in males (10.3%) with difference between their values before and after the test, but the mean DAP in males (18.7%) is higher after the test than that in females (14.8%), but the difference between the mean SAP value in males (12%) and females (14.3) its higher in females, and the mistakes in females decisions is more than twice that in males (112.5%), where the mistakes average in females is (1.7) and in males is (0.8), and that females act faster (average25.7 sec) than males (27 sec in average- which is longer in 4.8%), In addition the results of oculo- cardiac reflex test show that the mean HR in males in rest state was 67.2 bpm and that of females was 70.8 bpm, taking into account the same duration of pressing on the eyeballs (5-7 sec), this value decreased in males to 61.2 bpm (reduced by 6 bpm- 8.9%), and that for females to 60 bpm (reduced by 10.8 bpm- 15.2%).

**Conclusion:** 1. Our study shows that in females compared to that in males, which can be seen in the mistakes average in females (1.7) and in males (0.8), probably because females tend to act faster (average 25.7 sec) than males (27 sec in average- which is longer in 4.8%), because the HR and BP rise more in females the activity of these cortices is higher and the error rate is higher.

2. The autonomic supply and reactivity of the autonomic nervous system is higher in females as it can be seen by more “effective” results in oculo-cardiac reflex test ,where the HR in females decreases 1.7 times more than males.

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## REST, STRESS AND ITS EFFECTS ON MENTAL AND PHYSICAL ACTIVITY

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In these modern times the rate of illnesses that are related to stress and it’s frequency, especially among teenagers is alarming, while the explanation you’ll hear is “there is no time” this is not entirely true as time is constant, However studies have shown that those who have a time-table and follow through have ‘more time’ than those who procrastinate. This will later result in stress as the amount of sleep the body needs is being cut short. This being stated it is definitely important to view the relationship between rest and stress, as it is of great significance to reduce the rate of the diseases produced by this very common phenomenon. The first way of going about this is to find the cause of stress and to see the amount of rest regarded as adequate. Although a lot of people know that lack of rest leads to stress and its most common form of manifestation is *Depression*, they probably haven’t realized why depression and its relation to our