Abstract Group: 6.3. Tobacco, Smoking Control and Health Education
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Title: Prenosological diagnosis of respiratory function abnormalities in smokers

Dr. Marina 22522 Segizbaeva marina@infran.ru ¹, Dr. Mikhail 22523 Pogodin mapogodin@mail.ru ¹ and Dr. Nina 22524 Aleksandrova marina@infran.ru ¹. ¹ Laboratory of Respiration Physiology, Pavlov Institute of Physiology, St. Petersburg, Russian Federation, 199034.

Body: Chronic tobacco poisoning leads to the gradual development of various pathological processes at the cellular, tissue, organ and system levels, but their clinical manifestations may have delayed effect. Prenosological diagnosis of respiratory function disorders in smokers is very important in order to promote an effective behavioral intervention for smoking cessation. The study was performed for evaluation of simple and noninvasive diagnostic methods of respiratory disorders in smokers. Maximal inspiratory pressure (MIP), peak inspiratory flow (PIF) and peak expiratory flow (PEF), as well as the measurement of the fall in pulse oximetry saturation caused by 20-s breath-holding (dSaO2) at the end of expiration (Inoue H. et al, 2009) was studied in 20 young nonsmokers and smokers. Our results showed significant reduction of PEF and PIF in a group of men and women smokers compared with nonsmokers. MIP had a trend to decrease in smokers, especially in women's group. It was found that a temporary reduction in hemoglobin oxygen saturation caused by 20-sec apnea is significantly higher in smokers than non-smokers. Violation of ventilation-perfusion relationships during apnea because of the typical smoker disorders of the peripheral airway patency can be a major cause of severe oxygen desaturation. Smokers are at greater risk of hypoxemia during any apnea than nonsmokers. Our results showed that the measurement of PIF, PEF, MIP and dSO2 may be adequate diagnostic methods for early detection of respiratory pathology in smokers. These methods can be used in routine clinical practice.