

$p < 0,05$). Analysing leptin concentrations, no significant differences between groups were detected, but leptin levels were minimal in the 1st group ($13,15 \pm 1,90$ ng/ml) and maximal - in the 3rd group ($17,09 \pm 2,26$ ng/ml).

Conclusions. It was estimated the tendency to increase of leptin levels in postmenopausal women, especially in those with surgical menopause. The tendency was associated with significant changes of atherogenic markers of lipid metabolism and hyperinsulinemia.

POPULATIONAL FEATURES OF ASSOCIATION BETWEEN ANXIETY AND OTHER PERSONALITY TRAITS AND HORMONES IN YOUNG MEN

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Introduction. The different populations have some features of temperamental and behavioural characteristics. The representatives of different populations have different response to the same provoking stimuli. The study of interrelations between personality traits and hormones (or neurotransmitters), involved in stress reaction and behavioural reactions, is important not only to elucidation of such global problem as the mechanisms of aggressiveness and depression development but also for prevention of conflict situations between representatives of different populations. According to Neumann ID et al. (2010), excessive aggression and violence frequently accompany the anxiety- and depression-related states. According to results obtained by Keck ME et al. (2005), a high form of aggression is demonstrated by the rats with high and low anxiety.

Aim. Taking into account the above mentioned, the purpose of our research was to investigate the population features of the association between anxiety and other personality traits and hormones, involved in stress reaction and behavioural reactions.

Materials and methods. Thirty-two young healthy male students (of Ukrainian and Indian populations) of the Kharkiv National Medical University were involved in the study. All procedures performed in the investigation were in accordance with the ethical standards of the institutional research committees and with the 1964 Helsinki Declaration and later amendments. Anxiety, physical aggressiveness, neuroticism and extraversion were estimated using Spielberger State-Trait Anxiety Inventory, Buss-Durkee Hostility Inventory and Eysenck Personality Questionnaire, respectively. Hormone levels in blood serum were determined using ELISA kits (Italy) for T3, T4 and Cortisol; ELISA kits (China) for Norepinephrine and Epinephrine. Statistical analysis was performed using nonparametric approaches with Statistica 6.0 software. Mann-Whitney U criterion, correlation analysis by Spearman and Multiple Linear Regression analysis were applied.

Results. In total group of participants and Ukrainian population men a multiple regression analysis revealed neuroticism as statistically significant predictor of anxiety ($p=0.000065$; $p=0.003278$, respectively). Anxiety is predicted by neuroticism on 54% (semi partial correlation= $+0.735899$, $p=0.000499$) and 59.56% (semi partial correlation= $+0.760042$, $p=0.005817$), respectively. Extraversion was redundant variant. According to multiple regression analysis both extraversion and neuroticism predicted anxiety in Indian population men.

Multiple regression analysis revealed the involving of estradiol, norepinephrine and cortisol to predict anxiety in total group ($p=0.07142$, testosterone was abundant variant) and in Ukrainian population men ($p=0.043420$, all variants were included into equation). In total group the investigated variants predicted 33% of anxiety, major predictor was estradiol (semi partial correlation= $+0.392511$, $p=0.039591$). In Ukrainian population men the investigated variants predicted only 25% of anxiety, and norepinephrine and cortisol had negative correlation with anxiety but statistically insignificant. In Indian population men no involving of testosterone, estradiol, norepinephrine and cortisol to predict anxiety was revealed by multiple regression analysis.

According to multiple regression analysis anxiety and neuroticism were involved in physical aggressiveness prediction ($p=0.0046937$, extraversion was abundant variant) in total group of participants. In total group of participants anxiety and neuroticism predicted only 25% of physical aggressiveness. After division of total group into Indian and Ukrainian population men a multiple regression analysis did not reveal the statistically significant involving of anxiety, neuroticism and extraversion in physical aggressiveness prediction. However, in the previous study with involving of large group of Ukraine population men the multiple regression analysis revealed the dependence of physical aggressiveness on extraversion in persons with high anxiety and dependence of physical aggressiveness on neuroticism in persons with low anxiety.

In Indian population men a multiple stepwise regression analysis revealed statistic significance of model with involving of testosterone, estradiol, norepinephrine and cortisol in physical aggressiveness ($p=0.001954$). Norepinephrine predicted (decreased by 44%) physical aggressiveness, all other variants were redundant. These results coincide with early published data about the strong negative correlation between norepinephrine and physical aggressiveness in Indian men. In Ukrainian population no involvement of the above mentioned variants in physical aggressiveness prediction was shown by multiple regression analysis.

Conclusions. The results indicate the complex association of anxiety with physical aggressiveness, the necessity of division of participants depending on population and anxiety level to valid interpretation of results. The limitation of this study includes small sample size.