Introduction: Female doctors in reproductive age belong to the «risk group» of the health violation due to the complex influence of harmful occupational factors, the effects of which have not been fully studied[2]. Often this leads to the formation of in-between states characterized by deviation of physiological parameters from the normal values, which, however, is not accompanied by clinical symptoms[3]. In this regard, it is very important to develop a system of reliable biomarkers and a diagnostic algorithm for identifying disadaptation of the organism to the conditions of professional activity with the preferential usage of simple, non-invasive, non-traumatic, low-cost and at the same time sufficiently informative methods of prenosological diagnostics. Cytomorphological analysis of buccal epithelium is considered as one of the most perspective methods of this kind, allowing to assess functional state of the organism in the changing conditions of occupational environment[1].

Materials and methods. The main group consisted of female doctors who provided medical care in obstetric-gynecological hospitals (n = 31). The control group included women with higher education who worked in the health care organizations in the positions of accountants, economists, lawyers and secretaries (n = 31). All the patients were in reproductive age (23-49 years old) and lived in Grodno and Grodno region, Republic of Belarus.

Conditions of professional activity were evaluated based on the results of the certification of workplaces on working conditions.

Collection of buccal epithelium samples in patients, as well as the preparation of smears were performed according to routine procedures. Exactly 100 cells lying separately or with slight overlap were microscopized. Degenerated neutrophilic leukocytes were accounted.

Statistical processing of the data was done by usage of the computer software «STATISTICA 10.0». Statistical significance was checked by usage of the exact Fisher test and the Kruskal-Wallis criterion.
Results. It was found that working conditions of female obstetrics and gynecological doctors were harmful and, according to the results of certification of workplaces, belonged to class 3.3, which corresponded to the average level of «risk» for health status violation [1]. The working conditions of the women of the control group were classed as permissible (class 2), which did not create the prerequisites for worsening their health status.

Formation of the harmful working conditions for obstetrics and gynecological doctors in hospitals was due to occupational factors of biological and chemical nature, as well as by increased mental tension of labor process.

The obtained results show sufficiently expressed decreasing organism’s adaptive reserves in patients of the main group who were exposed to harmful factors of the occupational environment.

Thus, it was found that the frequency of occurrence of degenerated neutrophilic leukocytes in smears taken among female obstetrics and gynecological doctors in reproductive age was 70.4% and it was significantly higher in comparison with patients of the control group – 28.8% (p = 0.0139*).

In addition, despite the fact that in the smears of the buccal epithelium the unchanged buccal epitheliocytes prevailed in all the examined women, it was established that the number of degenerated neutrophilic leukocytes was greatest in the patients of the main group (median = 4, interquartile range = 0-12) in comparison with the group of control (median = 0, interquartile range = 0-5, p = 0.0144*).

It should be noted that only in the group of female obstetrics and gynecological doctors of the hospitals in 22.4% of cases the content of degenerated neutrophilic leukocytes deviated from the physiological norm (p = 0.0055**), which was evidence of the development of disadaptation to the conditions of professional activity.

Thus, usage of the prenosological diagnostic method based on the detection and counting of degenerated neutrophilic leukocytes in the smears of buccal epithelium allows to identify patients with reduced adaptive reserves of the organism in a timely manner.

Prospects for further researches. Further research will be devoted to the development and implementation of effective preventive measures
aimed at preserving and improving the health status of the patients which don’t have adequate adaptation to professional activity.

References.
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