



by conducting comprehensive research using psychological questionnaires and psychophysiological research using the device "NS-Psychotest" with further development of practical recommendations in order to prevent the occurrence of occupational burnout among this category of workers.

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## **VERIFICATION OF THE MODEL OF EARLY DIAGNOSIS OF PROFESSIONAL BUIROUT ON THE EXAMPLE OF EMERGENCY WORKERS**

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**Introduction.** Previously, scientists did not pay attention to the development of occupational burnout before its appearance. However, it is very important to identify prepathological criteria for the development of burnout in social workers, such as ambulance doctors.

**Goal.** Identify the criterion-significant questions of the Maslach Burnout Inventory questionnaire (MBI-GS) and the logistic regression coefficients of the model of prepathology detection in ambulance workers.

**Materials and methods.** The study was performed on the basis of Kharkiv National Medical University. A survey of 120 employees of the Regional Clinical Hospital - Center for Emergency Care and Disaster Medicine was conducted in Kharkiv, Ukraine. The sample included 44 paramedics of emergency medical care (18 men and 26 women) aged 20 to 78 years. The average age of the respondents was  $40.78 \pm 13.43$  years. Occupational burnout was determined by the Maslach Burnout Inventory (MBI-GS). Statistical processing was performed using Python 3.8 in the Jupiter Notebook environment using logistic regression analysis methods.

**Results.** At the first stage, all respondents - paramedics of the emergency medical center were divided by age and sex, and then into three groups: healthy people, a group of prepathology of burnout and a group of people with signs of burnout. In the group of prepathology, the determination of criterion-significant statements of MBI-GS was



carried out considering the degree of risk of burnout according to R. Kalimo et al. (2003). At the second stage by the method of logistic regression processing of answers of respondents from the group of prepathology and the selected coefficients:  $X = -0,561 + 0,154 \cdot A1 - 0,282 \cdot A2 - 0,403 \cdot A3 - 0,158 \cdot A4 + 0,075 \cdot A5 - 0,401 \cdot A6 + 0,475 \cdot A7 + 0,057 \cdot A8 + 0,159 \cdot A9 + 0,252 \cdot A10 + 0,486 \cdot A11 + 0,376 \cdot A12 + 0,516 \cdot A13 - 0,411 \cdot A14 - 0,441 \cdot A15 - 0,359 \cdot A16$ , where A1-A16 is an MBI-GS statement. At the third stage, the coefficients of the logistic regression model were sorted - the maximum values of the coefficients corresponded to the most informative statements. The fourth stage involved assessing the quality of the model by the metrics Accuracy, Precision, Recall and f1-score. The fifth step was to build a Confusion Matrix and classify the data. The sixth stage was to visualize the data. As a result, a model was built that allows the presence of information statements of the questionnaire MBI-GS to suggest the presence of burnout.

Conclusions. Thus, the definition of criteria for prepathology of occupational burnout according to the MBI-GS questionnaire will prevent the development of this phenomenon in workers of socially significant professions.

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## **COVID19, A BIOLOGICAL WARFARE**

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Introduction. Biological weapon is a weapon where the damaging agents are microorganisms such as viruses, bacteria, fungi, or other toxins that are produced and released intentionally to cause disease and death in humans, animals, or plants.

According to WHO, Wuhan, Hubei province was the first place where the first cases of COVID-19 was on the 31st of December 2019. It was reported about an unknown virus that can hit people and animals. The virus has spread to all continents and, in March 2020, WHO announced a pandemic of this disease, which was named COVID-19. At the end of 2020, new variants of this virus appeared, such as British, South African, and Indian. Globally, 4 May 2021, there have been 153 187 889 confirmed