

ASSESSMENT OF FATIGUE INDICATORS IN STUDENTS OF THE MEDICAL FACULTY OF IFNMU

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Relevance. Intensive mental work is one of the factors leading to exhaustion of the nervous system and the development of fatigue, which reduces the productivity and efficiency of learning and work, provokes family and social conflicts, and is a risk factor for various diseases. Students are a particularly vulnerable group of the population to this condition, which necessitates the study of the epidemiology of this nosology at the university.

Objective. The aim is to study the indicators, components, and features of fatigue development among students of the Faculty of Medicine of IFNMU.

Materials and Methods. A survey was conducted on 305 students from the 1st to the 6th year of the Faculty of Medicine of IFNMU, aged 16-24 years. Of these, 220 (72.1%) were women and 85 (27.9%) were men. The average age of the respondents was 20.3±1.9 years. The Fatigue Assessment Scale (FAS) was used to assess the severity of fatigue. Intensity of depression and anxiety was determined by Hospital Anxiety and Depression Scale (HADS). Statistical data processing was carried out using the Kruskal-Wallis analysis of variance, the Mann-Whitney U-test, the chi-square (χ^2) test and Spearman correlation.

Results. It was found that 54 (17.7%; 95% CI 13.6-22.5%) of the respondents had a normal level of fatigue, and 167 (54.8%; 95% CI 49.0-60.4%) and 84 (27.5%; 95% CI 22.6-32.9%) respondents had moderate and severe fatigue, respectively. Among students with abnormal level of fatigue, the physical component prevailed over the mental component (56.2% [95% CI 49.8-62.4%] and 32.3% [95% CI 26.5-38.4%], respectively), while both components had equal importance in 11.6% [95% CI 7.9-16.2%] of students. It was found that fatigue is unequally expressed among students of different courses ($p<0.05$). The highest level of fatigue was found in students of the 2nd year, and the lowest one – in the 4th year respondents (mean FAS results – 32.4±8.5 and 27.6±7.5 points, respectively). In particular, among 2nd-year students, three respondents (9.1%; 95% CI 1.9-24.3%) had a normal level of fatigue, 14 students (42.4%; 95% CI 25.5-60.8%) had moderate fatigue, and 16 students (48.5%; 95% CI 30.8-66.5%) had severe fatigue. For 4th-year students, these indicators were: 13 (26.5%; 95% CI 15.0-41.1%), 25 (51.0%; 95% CI 36.3-65.6%), and 11 (22.5%; 95% CI 11.8-36.6%), respectively. There was no statistically significant difference in the level of fatigue between male and female students ($p>0.05$). Between severity of mixed anxiety-depressive disorder and fatigue, a direct strong correlation $r_s=0.77$ ($p<0.001$) was found.

Conclusions. The majority of students at the Faculty of Medicine of IFNMU show signs of moderate or severe fatigue. The physical component prevails in its development. Fatigue is unequally expressed among students of different study years. The highest level of fatigue was found in the 2nd-year students, and the lowest one – in the 4th year students. Gender does not influence the development of fatigue. Between severity of mixed anxiety-depressive disorder and fatigue, a direct strong correlation $r_s=0.77$ ($p<0.001$) was found. The obtained results indicate the need for further research to identify the causes of the high prevalence of fatigue, and to develop methods for its prevention and correction.

THE DEPENDENCE OF THE EARLY AND LONG-TERM PROGNOSIS IN PATIENTS WITH CHRONIC HEART FAILURE WITH PRESERVED LEFT VENTRICULAR EJECTION FRACTION FROM THE INITIAL SERUM SODIUM LEVEL

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Relevance. Hyponatremia is an established predictor of adverse cardiovascular events associated with long-term mortality and rehospitalization in patients with renal dysfunction. A decreased serum sodium level in acute heart failure patients leads to delayed fluid excretion, causing the appearance of cardiorenal syndrome, which is associated with a worse clinical outcome. However, the influence of hyponatremia on the early- and long-term prognosis in patients with chronic heart failure remains insufficiently studied.

Aim. To study the dependence of the early-term (1 year) and long-term (5 years) prognosis in patients with chronic heart failure (CHF) of ischemic origin with preserved left ventricular ejection fraction (LVEF) depending on hyponatremia.

Materials and methods. The study involved 88 patients (men – 46.6% (n=41); women – 53.4% (n=47)) with CHF of ischemic origin, stage II A-B, stage II-IV according to NYHA, 67% (n= 59) with sinus rhythm, and 33% (n= 29) with atrial fibrillation. Patients with sinus rhythm and atrial fibrillation were matched in age ($p = 0.483$), height ($p = 0.345$), weight ($p = 0.317$), body surface area ($p = 0.153$). Kaplan-Meier curves and Cox proportional hazards regression analysis were performed.

Results. A reduced sodium level less than 142.5 mmol/l was associated with an increase in number of adverse cardiovascular events during the first-year follow-up by 22% (HR = 1.22, $p = 0.029$). After 5 years of follow-up, the cumulative curves of adverse cardiovascular events in patients with a baseline sodium level lower and higher than 142.3 mmol/l had a statistically significant difference (Cox-Mantel F-Test, $p = 0.00287$). According to the univariate model of Cox proportional hazards, the relative risk of adverse cardiovascular events in patients with CHF during the 5-year follow-up has a tendency to increase by 1.04 times (95% CI 0.85-1.27; $p = 0.72$).

Conclusions. The most powerful factor of the one-year prognosis of adverse cardiovascular events in CHF patients with preserved left ventricular ejection fraction is the marker of tubulointerstitial dysfunction - the serum sodium level less than 142.5 mmol/l. The electrolyte imbalance, decreased sodium level less than 142.3 mmol/l, remains a powerful marker of an unfavorable long-term 5-year prognosis in CHF patients with preserved left ventricular ejection fraction.