

Kharkiv National
Medical University

INTERNATIONAL SCIENTIFIC INTERDISCIPLINARY CONFERENCE

of Young Scientists and Medical Students



25-27
May

2026

Kharkiv, Ukraine



*Where knowledge
heals and
transforms*

INTERNATIONAL SCIENTIFIC INTERDISCIPLINARY CONFERENCE

of Young Scientists and Medical Students



25-27

May

2026

Kharkiv, Ukraine

SECTION	PAGE
 Dentistry and Maxillofacial Surgery	4
 Infectious Diseases, Epidemiology, Dermatology	33
 Internal Medicine	64
 Neurosciences	160
 Obstetrics and Gynecology	187
 Pediatrics and Neonatology	236
 Preventive Medicine, Current Issues in Nursing	255
 Surgery and Traumatology	286
 Theoretical and Experimental Medicine	328

*Where knowledge
heals and
transforms*

Ivaniuk Alevtyna

RISK ASSESSMENT OF DIGITAL VISUAL SYNDROME AND PATHOPHYSIOLOGICAL BASIS OF ACCOMMODATION DISORDERS

Kharkiv, Ukraine

Kharkiv National Medical University

Department of General and Clinical Pathological Physiology named after D.O.
Alpern

Scientific advisor: MD, PhD, Associate Professor Sakal Hanna

Introduction. The rapid integration of high-resolution digital devices into the educational process has led to a significant increase in visual strain among students. This trend has resulted in the widespread prevalence of digital eye strain (DES)—a complex of ocular and extraocular symptoms. Amid the widespread transition to OLED displays, which are characterized by specific flickering and high energy in the blue light spectrum, studying the pathophysiological mechanisms of visual fatigue has become critically important for preventing chronic ophthalmic pathologies. **Objective.** To analyze the prevalence of CVS and provide a pathophysiological rationale for the development of accommodative dysfunction during prolonged digital exposure. **Materials and Methods.** A specialized survey was conducted among 54 students (aged 18–25). Diagnostic criteria were based on the CVS-Q questionnaire, which assesses the frequency and severity of 16 clinical symptoms. Digital hygiene parameters, device types, and concomitant somatic status were evaluated.

Statistical analysis focused on identifying correlations between screen time and the intensity of asthenic complaints. **Results and Discussion.** The analysis revealed that 38.9% of respondents use digital devices for more than 6 hours a day. The most common clinical symptoms were eye strain (55.5%), a sensation of dryness and burning (55.6%), and blurred vision at close range (37.1%). From a pathophysiological perspective, prolonged close-up work in front of a screen induces a state of tonic tension in the ciliary muscle. This leads to local ischemia and metabolic depletion of muscle fibers, resulting in transient accommodation spasm, which was verified in 51.9% of participants. In addition, 41.1% of students diagnosed with cervical osteochondrosis reported more pronounced symptoms, indicating the role of disturbances in afferent innervation and vertebrobasilar insufficiency as aggravating factors in visual asthenia. The impact of OLED technology was reflected in higher rates of “visual discomfort” compared to LCD

users, which is likely due to high-frequency pulse-width modulation. Systematic disregard for hygiene rules (90.2% do not follow the “20-20-20” rule) and poor sleep quality (only 19.6% get adequate rest) further exhaust the compensatory mechanisms of the visual system and the central nervous system. Conclusions. Digital eye strain is the most prevalent functional disorder among students, characterized by a high prevalence of accommodative asthenia (51.9%). The pathophysiological basis of the syndrome is chronic fatigue of the ciliary muscle and microcirculatory disturbances. Somatic status, particularly pathology of the cervical spine, significantly lowers the threshold for the development of visual fatigue symptoms. The implementation of educational programs on digital hygiene and regular accommodation exercises is necessary to prevent functional changes from progressing into chronic eye diseases.