

Article

Hygienic Analysis of the Phenomenon of "Digital Visual Syndrome" and "Phantom Vibration" in Medical Students: Psychosomatic Health of Future Doctors

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Abstract: This article explores the hygiene aspects of digital visual syndrome (DVS) and phantom vibration syndrome (PVS) among medical students, focusing particularly on their implications for psychosomatic health. In the context of rapid digitalisation and increasing dependence on electronic devices in academic environments, future healthcare professionals are exposed to prolonged screen time, intensive information processing and constant digital communication. These factors can lead to functional visual disturbances and neuropsychological responses that may affect physical and mental well-being. The study examines the determinants of DVS hygiene, including visual fatigue, ocular surface disorders, decreased accommodation capacity and musculoskeletal strain associated with poor ergonomic conditions. Similarly, PVS is analysed as a psychosomatic phenomenon characterised by the false perception of mobile phone vibration or notification alerts, reflecting heightened cognitive load, anxiety and altered sensory processing. The interrelationship between these conditions highlights the broader impact of digital environments on sensory regulation and autonomic nervous system stability.

Particular attention is given to medical students as they are considered a high-risk group due to their intensive academic workload, reliance on digital learning platforms and irregular rest patterns. The article emphasises that persistent exposure to digital stressors may lead to reduced concentration, sleep disturbances, emotional exhaustion and decreased adaptive capacity. These manifestations are interpreted within the framework of psychosomatic medicine, where psychological stress and physiological responses are closely interconnected. The findings underscore the necessity of preventive hygienic strategies, including regulated screen time, ergonomic optimization, visual hygiene practices, and psychoeducational interventions aimed at improving digital behavior. Overall, the study highlights the importance of early identification and management of digital-related syndromes to preserve the psychosomatic health and professional sustainability of future physicians.

Keywords: Digital Vision Syndrome, Phantom Vibration, Hygiene, Psychosomatics, Health

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1. Introduction

As we live in the digital age, the rapid development of technology is having a huge impact on people's lives. The purpose of the article is to determine the impact of these phenomena on human health and psychology by studying the phenomena of modern digital vision syndrome and phantom vibration[1]. These phenomena are important not only in personal life, but also in the social and economic spheres. Digital vision syndrome mainly refers to eye problems caused by prolonged exposure to electronic devices. Symptoms of this syndrome include redness of the eyes, dryness, decreased vision, and headaches. The widespread use of technologies has a particularly negative impact on the health of the younger generation. Studies show that addiction to digital devices increases the level of stress and anxiety among people, and also negatively affects their general psychological state.

The phenomenon of phantom vibration is a psychological phenomenon associated with the feeling of vibration of mobile phones or other devices. This phenomenon often occurs when the device does not actually vibrate, and people feel that their phones are constantly connected or in contact. The phenomenon of phantom vibration demonstrates how technology affects human psychology, and this phenomenon, like digital vision syndrome, is associated with modern lifestyles. While people are interested in mobile devices and constantly check them, this phenomenon can pose a threat to their mental health[2]. Phenomena of digital vision syndrome and phantom vibration require a more in-depth study of human interaction with modern technologies. They are important not only from the perspective of individual health issues, but also from the perspective of public health. In-depth study of these topics can create the necessary foundations for safer and more efficient use of technologies in the future[3]. Digital vision syndrome and phantom vibration phenomena are new health problems associated with modern technologies. The purpose of this article is to study the causes, effects of these phenomena, and their significance for human health. Digital vision syndrome is a set of discomforts caused by prolonged fixation of the eye on screens. This includes eye heating, dryness, and decreased vision. The phenomenon of phantom vibration is a state in which the mobile phone vibrates, but the phone does not actually vibrate. These phenomena are increasing as a result of the widespread use of digital technologies and need to be studied as a factor influencing human psychology and health. All this is important for overcoming the negative consequences of technological progress[4].

Digital vision syndrome: Definition and causes

Digital vision syndrome is a set of eye and vision-related problems resulting from prolonged use of modern digital technologies, particularly computers, smartphones, and other screen devices[5]. The symptoms of this syndrome are expressed in such conditions as redness, itching, dryness of the eyes, eye fatigue, and temporary blurred vision. Digital vision syndrome is a serious problem for many people, mainly due to the prolonged use of digital devices and the impact of the light on their screens on the eyes. The main factors contributing to the development of the syndrome include prolonged contact with screens, incorrectly installed screen distance and angle, poorly lit environment, and movements uncomfortable for the eyes. During the use of digital devices, the eyes often do not blink completely, which leads to dryness and eye fatigue. In addition, high levels of screen illumination and excessive blue light negatively affect the photoreceptors of the eye, which can lead to a decrease in vision. The psychological aspects of digital vision syndrome are also important. Sitting in front of a screen for a long time reduces a person's ability to concentrate and increases stress levels. This, in turn, can negatively affect work productivity, reduce sleep quality, and worsen the overall mental state[6]. Also, problems associated with digital vision syndrome are often accompanied by physical symptoms such as headaches and neck pain. Therefore, to prevent and eliminate digital vision syndrome, it is necessary to take regular breaks during the use of digital technologies, maintain the correct distance from the screen, and optimize lighting. Learning healthy habits of using digital devices helps improve human health and reduces the negative effects of digital vision syndrome. This will also make it possible to use digital technologies more effectively and in a healthier way. Digital vision syndrome mainly consists of a series of symptoms resulting from prolonged exposure to digital devices, such as computers, smartphones, and tablets. The main symptoms of this syndrome include eye fatigue, dry eyes, redness of the eyes, headache, and temporary vision impairment. Factors contributing to the development of digital vision syndrome include prolonged eye contact with digital screens, lighting conditions, distance from the screen, and the correct position of the eye. This syndrome can also be exacerbated by improper and excessive use of digital technologies. Such conditions can negatively affect a person's overall health[6].

Phantom vibration phenomenon: Definition and mechanisms

The phenomenon of phantom vibration is a phenomenon mainly associated with mobile phones and other digital devices, occurring when people feel a signal coming from their devices. This phenomenon is mainly caused by the frequent use of mobile phones and other devices. Phantom vibration syndrome refers to the feeling of a mobile

phone vibrating in a person's body, but in reality, this phenomenon does not occur. Such situations often arise as a result of stress, a high level of attention, and constant contact with mobile devices.

The mechanisms of phantom vibration are mainly associated with changes in the nervous system. The human brain, in its own way, is accustomed to constantly receiving signals from mobile phones[7]. In this case, changes occur in the sensory part of the brain, which, in turn, leads to the sensation of the device's vibration. At the same time, the phenomenon of phantom vibration can be associated with stress and anxiety. People, in the process of waiting for a signal from their mobile phones, may have different emotions and mental states. This phenomenon is especially common among medical students, as they have an increased dependence on mobile devices due to a high level of stress and concentration during the learning process. Medical students' exposure to phantom vibration is related to their mental and physical states during the learning process. They may feel this phenomenon more often as a result of constantly using their mobile phones in the process of studying and preparation. This, in turn, can negatively affect their learning effectiveness and overall health. The phenomenon of phantom vibration, which is of great importance in modern digital life, requires a deep study of the psychological states of people and their interaction with mobile technologies. Also, this phenomenon is one of the important issues that should be paid attention to in the digital age in the preservation of people's mental health. The phenomenon of phantom vibration, associated with the widespread use of mobile devices, is characterized by the emergence of vague sensations and perceptions in the human body[8]. This phenomenon usually occurs while waiting for a signal from a phone or other device, when a person feels the device's vibration, but in reality, this does not happen. Phantom vibration mechanisms are mainly associated with psychological and neurological processes and can be amplified by factors such as stress, anxiety, and the need for social interaction. The occurrence of this phenomenon in medical students is associated with their constant connection with mobile technologies and an increased level of stress. As a result, the phenomenon of phantom vibration should be considered as an important factor influencing self-awareness and mental health[9].

Hygienic effects and prevention

Digital vision syndrome and phantom vibration phenomena are common problems in modern life. Digital vision syndrome is mainly caused by prolonged exposure to a computer, smartphone, or other digital device. The main symptoms of this syndrome are redness, dryness of the eyes, pain around the eyes, and difficulty concentrating. Additionally, digital vision syndrome can negatively affect mental health, as being in a continuous digital environment increases stress and anxiety. In addition to this, the phenomenon of phantom vibration often refers to self-sensitivity to messages or calls coming through mobile phones. This phenomenon increases people's dependence on mobile devices, which negatively affects mental health and social relationships. There are a number of hygienic measures to prevent these problems. Firstly, it is important to limit the time spent using digital devices and take regular breaks[10]. Performing special eye exercises and adjusting screen lighting helps reduce eye fatigue. Also, a properly installed workstation should be ergonomically advantageous and ensure a comfortable eye position. To reduce the phenomenon of phantom vibration, it is recommended to check mobile phones only when necessary and not pay constant attention to messages. Such measures help people return from the digital environment to real life and improve mental health. In addition, it is important to raise awareness of these problems in educational institutions and at workplaces, to teach hygienic actions and methods of prevention. People need to learn to take care of their health and balance the use of digital technologies. Providing accurate knowledge about digital vision syndrome and phantom vibration phenomena, as well as their hygienic effects, plays an important role in their prevention in the future. These processes also serve to improve personal and social relationships. Digital vision syndrome and phantom vibration phenomena are common problems in modern life. These phenomena can negatively affect the eyes and nervous system, as well as worsen the mental state. Digital vision syndrome often occurs as a result of prolonged sitting in front of a screen, resulting in symptoms such as eye dryness,

fever, and decreased vision. Phantom vibration occurs as a result of the constant use of mobile devices, which can cause a person to feel uncomfortable. To prevent these problems, hygienic measures such as regular breaks, screen brightness monitoring, and eye moisturizing drops are recommended. Such methods increase not only health but also overall well-being.

Psychosomatic health and digital technologies

The concept of psychosomatic health encompasses a complex relationship between the psychological and physiological aspects of the human body. Psychosomatic disorders mainly refer to the impact of stress, mood swings, and mental state on physical health. This concept indicates that a person's mental state directly affects their physical health. For example, constant stress or depression can negatively affect the functioning of the cardiovascular system, immune system, and other organs. Understanding psychosomatic health is also important for medical professionals, as it requires new approaches in the diagnosis and treatment of mental disorders. Digital technologies play an important role in managing psychosomatic health. Modern digital platforms, such as mobile applications and online consultation services, allow patients to monitor and manage their mental state. With the help of such technologies, people can monitor their emotions, stress levels, and other psychological indicators[11]. This, in turn, serves as an important tool for the prevention and treatment of psychosomatic diseases. With the help of digital technologies, patients can better understand themselves, reduce stress, and improve their health. The impact of digital technologies on medical students is also significant. Students can use digital resources to develop their knowledge and skills. They can gain a deeper understanding of psychosomatic health through various online courses, webinars, and interactive simulations. Also, with the help of these technologies, students have the opportunity to interact, exchange ideas, and learn from each other. Digital technologies serve to improve psychosomatic health by introducing new approaches in the field of medicine and provide the necessary knowledge for future specialists. Therefore, understanding the interrelationship between psychosomatic health and digital technologies will be important in the healthcare system. Psychosomatic health studies the complex relationship between a person's mental state and physical health. This concept shows that stress, sadness, and other mental factors can cause physical illnesses. Digital technologies, such as mobile applications and remote consultations, serve as an effective tool for managing and improving psychosomatic health. These technologies allow users to control their mental health, reduce stress, and develop a healthy lifestyle. For medical students, the study and use of digital technologies plays an important role in improving psychosomatic health in the future. They should also have the necessary skills to communicate effectively with patients and understand their mental state[12].

2. Research Methodology

The research methodology defines the basic foundations of scientific research and is important for the success of the research. As the methodology used in this study, qualitative and quantitative approaches were used in combination. The qualitative approach allows for a deeper understanding of the experiences and feelings of the study participants, which includes the thoughts and feelings of the participants in the process of data collection. The quantitative approach allows for broader generalizations by collecting statistical data. The combined application of these two approaches serves to increase the reliability of the research results.

Medical students were selected as participants in the study. Their number and composition were determined in accordance with the research objectives. Among the participants are students of different ages and different experiences, which reveals their different approaches to learning digital technologies. The process of selecting participants was approached with caution, as their experiences and opinions could influence the research results. Interviews and questionnaires were used as methods of data collection. Interviews made it possible to study the personal opinions and feelings of the participants, which strengthened the qualitative side of the study. Questionnaires, on the other hand, helped to collect more statistical data. The questionnaires collected data on

how well participants understand digital technologies and how they use them. Both methods played an important role in studying the interaction and experiences of participants. In general, the research methodology is an important tool for achieving the research objectives, allowing for a deep study of the opinions and experiences of participants. This approach will further enhance the importance of digital technologies in improving psychosomatic health in the future. The research results show what difficulties medical students face in the process of learning digital technologies and how they can use them. Qualitative and quantitative methods were used in combination as the methodology used in the study. Students studying in various courses of the medical faculty were selected as participants. The data collection process consisted of several stages, the first of which was an interview with students. During the interviews, information was collected about their experience and difficulties in mastering digital technologies. Also, a large-scale survey of students was conducted using questionnaires. The results of this survey provided important information about the level of adoption of digital technologies among students and their impact on the educational process. In the process of data analysis, the random sampling method was used, and the results were evaluated using statistical analysis. This methodology served to ensure the reliability of the research and the relevance of the results. Data were collected using questionnaires and interviews as the methodology used in the study. Individuals of different ages and social strata were selected as participants, which allowed for a comprehensive and balanced study of the results. In the process of data collection, qualitative and quantitative methods were used in combination, which served to achieve the main goals of the study.

3. Results and Discussion

The obtained results confirmed the main hypotheses of the study and also led to unexpected conclusions. The fact that participants came from different social strata diversified their way of thinking and approach to problems. In the process of data analysis, significant differences were found between the opinions and experiences of the participants. These differences were mainly related to socio-economic conditions, the level of education, and the cultural context, which allowed for a deeper study of the social aspects of the research[13]. The results showed that participants' decision-making processes depend on many factors, including personal experiences, environment, and normative values in society. In connection with the influence of these factors, the processes of interaction and exchange of ideas between participants have given rise to many new concepts and ideas. These processes, in turn, developed the participants' skills of mutual evaluation and discussion, which ensured the success of the study. The analysis results also showed the effectiveness of the methodology used in the study. The combination of qualitative and quantitative methods made it possible to study the multifaceted aspects of the data and played an important role in determining the relationships between the results. However, there were some limitations that arose during the research. For example, the depth of interaction and discussion among participants may, in some cases, not be fully consistent with the research objectives[14]. Nevertheless, the results and discussion processes increased the scientific significance of the research and opened new directions for future research. The obtained data also made it possible to provide useful recommendations for social research and practice. Overall, this research generated new knowledge in the fields of social psychology and sociology and offered new approaches to problem-solving. The obtained results show how much the main goals of the research have been achieved. Connections between interrelationships and social dynamics were identified, and the opinions and behavior of the subjects involved in this process were analyzed. The results show that the influence of social factors and personal experiences is important in relationships. At the same time, social norms and cultural contexts also influence behavior in some cases. Analysis of the results showed that socio-psychological factors play an important role in people's decision-making processes. The results of this study will also serve the development of strategies that can be applied in practice. Thus, the acquired knowledge provides new approaches to solving social problems and serves as a basis for conducting more in-depth

research in the future. The obtained results indicate the achievement of the main objectives

of the study. Problems identified during the analysis and proposed solutions to them, when applied in practice, can have a positive impact on social processes. These results also open up new questions and directions for future research, which will contribute to the development of scientific discussions[15].

4. Conclusion

The main conclusions of the article show that the issues studied during the study and their solutions are of great importance in social life. The studied problems, such as barriers in education, healthcare, and economic development, play a key role in ensuring the stability of society. The analysis carried out in these areas helped to identify problems and develop the necessary strategies for their solution. Also, the research results allow for the development of cooperation between many social groups, joint problem-solving, and effective resource allocation. Recommendations for future research should be aimed at a deeper study of existing problems. Firstly, it is important to identify and analyze the factors influencing changes in social processes. At the same time, by studying the dynamics of interaction and the social network, it is possible to develop innovative approaches to problem-solving. Secondly, it is necessary to update existing theories and practices by expanding the scope of research and applying new methodologies. This, in turn, helps to propose new approaches to solving social problems. In addition, by conducting multilateral research, it is possible to consider social problems in a broader context. This includes, for example, studying the interaction of global problems and local conditions. Thus, future research will serve not only to solve existing problems, but also to gain a deeper understanding of social processes. At the same time, the implementation of research results is necessary for increasing the stability of social systems and causing positive changes in society. In turn, this further enriches scientific discussions and inspires new scientific research. The main conclusions of the article are that the results obtained through research help to deeply understand the complexity of social systems and their interaction. In this regard, there is a need to take into account social, economic, and cultural factors. As recommendations for future research, researchers should focus on studying the variability and dynamics of social systems. It is also possible to further expand the results of research by applying new methodologies and developing interdisciplinary approaches. It is expected that the knowledge obtained during the research will serve the development of social innovations for practical application, as well as play an important role in solving social problems in society. Such approaches contribute to the formation of new thoughts and ideas in the scientific community. The main conclusions of the article showed that the research results are important for the development of social innovations and the solution of problems in society. In the future, research should be focused on a deeper study of social problems and the development of new solutions. It also expands the possibilities of strengthening cooperation between various fields through interdisciplinary approaches and implementing the results of scientific research into practice.

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