

# Motivational and value-based attitude of law enforcement officers to motor activity as a factor of a healthy lifestyle

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## ABSTRACT


**Aim:** To study the attitude of law enforcement officers to motor activity and investigate its impact on their health.

**Materials and Methods:** The research, which was conducted in 2022-2024, involved 163 law enforcement officers under the age of 30. Research methods: bibliosemantic, questionnaire, testing, medical and biological methods, methods of mathematical statistics.

**Results:** It has been found that the vast majority of law enforcement officers (85.3 %) understand the importance of motor activity as a factor of a healthy lifestyle, its impact on physical and mental health, and quality of their professional activities. At the same time, only 27.6 % of law enforcement officers systematically engage in motor activity, 52.8 % do it sporadically, and 25.8 % do not engage in it at all. Among the reasons that prevent them from exercising are lack of time (65.6 %), lack of desire (31.3 %), and fatigue after a service day (28.1 %). It has been found that law enforcement officers who systematically engage in motor activity have a significantly better level of health (7.31 points) compared to those who engage in occasional motor activity (5.07 points) and do not engage at all (2.19 points).

**Conclusions:** The positive impact of motor activity on the level of health of law enforcement officers has been proved. Good health is a guarantee of high resistance of law enforcement officers to negative factors of professional activities, professional longevity, and quality of their professional tasks.

**KEY WORDS:** health, healthy lifestyle, motor activity, law enforcement officers

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## INTRODUCTION

Health is the most important of all human values. Good health and high resistance to adverse environmental factors is one of the important conditions for active longevity, successful learning, productive professional activities as well as personal and family happiness [1]. Health is defined as a human condition that is characterized not only by the absence of diseases or physical defects but also by complete physical, mental, and social well-being [2]. Therefore, only a physically, spiritually, and mentally healthy person can realize his or her potential in the most effective way and feel like a full-fledged member of society.

At the same time, one of the most important social problems of our time is the deterioration of public health. Under current conditions, Ukraine is facing a critical public health situation due to: the Covid-19 pandemic and other viruses that have led to a sharp in-

crease in morbidity; the Russian occupation of Ukrainian territories, and the high threat of constant rocket attacks on civilians, which has led to a critical deterioration in both physical and mental health of Ukrainians; the transition of most Ukrainian educational institutions to distance learning, which has led to a significant decrease in the motor activity of young people and the massive use of various gadgets; and other reasons [3]. As a result, the number of patients with functional disorders of cardiovascular, respiratory, musculoskeletal, visual, neuropsychiatric, and other diseases is increasing every year [4]. Unfortunately, law enforcement officers are no exception, whose health condition has deteriorated sharply in recent years due to the performance of special tasks of professional activities under martial law [5]. According to scientists [6], among the factors that affect health, more than 50 % are factors that characterize a person's lifestyle. That is, by forming and

regulating a lifestyle, a person can influence his or her health. Scientists identify several key components of a healthy lifestyle, among which, along with a healthy diet, adequate sleep, and giving up bad habits, motor activity (exercise) plays an important role [7].

Motor activity is an integral part of a person's lifestyle and life-sustaining activities, which are determined by socio-economic and cultural factors, and also depend on the organization of physical education, morphological and functional characteristics of the body, type of nervous system, amount of free time, motivation to exercise, accessibility of sports facilities and recreation areas [8]. Motor activity is an important factor in maintaining high human working capacity. They have an impact on human biological nature forming the ability to self-manage, promoting health, stimulating the development of physical qualities, and improving mental performance [9].

A low level of motor activity negatively affects most functional systems of the body and is a factor in the emergence and development of a significant number of diseases. Scientists [10] note that insufficient motor activity can cause the following problems: respiratory distress during exercise, decreased working capacity, fatigue, sleep disturbances, reduced concentration, and increased nervous as well as emotional agitation. The scientific literature [11] also emphasizes that insufficient motor activity negatively affects the course of complex biochemical and physiological processes in the human body. This sharply reduces the function of the central nervous system, and fatigue sets in faster. Certain changes occur in the cardiovascular system. The activity of hormones decreases. For example, the content of adrenaline in the blood, a hormone that plays an important role in regulating the heart, is significantly reduced. There is also a decrease in noradrenaline in the heart muscle, which dramatically reduces its performance. There is a deterioration in the overall metabolism; sedentary people significantly increase their body weight, which in turn leads to other negative health consequences. The deterioration of health is even more pronounced in people with bad habits [13].

## AIM

The aim is to study the attitude of law enforcement officers to motor activity and investigate its impact on their health.

## MATERIALS AND METHODS

The research, which was conducted in 2022-2024, involved 163 law enforcement officers of National

Academy of Internal Affairs (NAIA) under the age of 30. Research methods: bibliosemantic, questionnaire, testing, medical and biological methods, methods of mathematical statistics. The bibliosemantic method was used to conduct an analytical review of scientific sources on the outlined range of issues (19 sources from PubMed, Scopus, Web of Science, Index Copernicus and other databases were analyzed). The questionnaire method involved surveying law enforcement officers using a questionnaire developed by the author's team. The questionnaire contains 10 questions, that are aimed at studying the motivational and value-based attitude of law enforcement officers to motor activity as a factor of a healthy lifestyle. The questionnaire was anonymous, which helped to increase the accuracy of the formulated conclusions. The questionnaire was assessed by the experts in this field (2 professors and 4 associate professors) and was approved by the Academic Council of NAIA (Protocol No. 2 dated 07.10.2022). Consent to voluntary participation in the survey was obtained from all respondents involved in the study. Medical and biological methods were used to study the impact of motor activity on the law enforcement officers' health level. Law enforcement officers' health level was examined according to the method of the professor H. L. Apanasenko [13] based on the anthropometry indicators (height, weight, lungs vital capacity, wrist dynamometry) and the state of the cardiovascular system (heart rate, arterial blood pressure). The health level was evaluated in points and it included the estimation of the body mass index, vital index, strength index, Robinson's index and heart rate recovery (HRR) time after a standard exercise. The method of system analysis and generalization was used to analyze the results obtained and formulate the conclusions of the research. The methods of mathematical statistics were applied to correctly process the data and identify the difference between the indicators under study. The compliance of the data distribution with the Gauss' law was assessed using the Shapiro-Wilk W-test. The authenticity of the difference between the indicators that were evaluated in points was determined by means of Student's test (t). The statistical significance for all statistical tests was set at  $p < 0.05$ . All statistical analyses were performed with the SPSS software, version 21, adapted to medical and biological researches. This this research followed the regulations of the World Medical Association Declaration of Helsinki and ethical principles for medical research involving human subjects. Informed consent was received from all respondents who took part in this research.

## RESULTS

As a result of the questionnaire survey, we found that most law enforcement officers have sufficiently substantive knowledge about the nature and components of a healthy lifestyle. Thus, 90.1 % of respondents explained the meaning of the concept through its components, 6.7 % gave a thorough definition of the concept of a "healthy lifestyle," and 3.2 % failed to cope with the task. The results show that, in general, almost all law enforcement officers surveyed understand the essence and importance of a healthy lifestyle. Studying the attitude of law enforcement officers to motor activity as one of the main factors of their healthy lifestyle, we found that 85.3 % of respondents are aware of their positive impact on physical and mental health, improved well-being, the quality of their professional activities and other components of their life-sustaining activities. 13.5 % of law enforcement officers assessed the role of motor activity in their personal and professional life as an important factor, but ranked it after nutrition and bad habits; 1.2 % of law enforcement officers, unfortunately, do not attach importance to this component of a healthy lifestyle.

It has also been found that the vast majority of respondents are convinced that motor activity has a positive impact on the physical health of law enforcement officers, improvement of physical development and functional capabilities of their body (96.3 %); promotion of their mental health, emotional state, stress prevention and formation of mental resistance to factors of service activities (especially in martial law) (97.5 %); improvement of the quality of professional tasks performance within their service activities (regardless of specialty) (90.8 %). At the same time, it was found that regular motor activity (systematic exercise) takes place in the lives of only 27.6 % of law enforcement officers (scheduled physical training sessions, independent classes); 52.8 % of respondents exercise occasionally (if they have free time, opportunity, and desire); 25.8 % of law enforcement officers do not exercise at all (over the past year).

The main motivational factors that encourage law enforcement officers to motor activity (to engage in physical exercise) include the following (no more than two answers were allowed): 41.9 % – health (physical and mental) promotion; 32.1 % – development of physical fitness; 30.5 % – improvement of appearance; 28.2 % – improvement of the quality of professional performance; 19.1 % – improvement of mood and well-being; 17.6 % – psycho-emotional relief; and 6.1 % – other factors. It was found that the main reasons that prevent law enforcement officers from engaging in motor activity include (no more than two answers were allowed): lack

of free time – 65.6 %, lack of desire – 31.3 %, fatigue after a service day – 28.1 %; other reasons – 9.4 %. It should be added that among law enforcement officers who systematically engage in motor activity, 62.2 % were found to be satisfied with their health and physical fitness; among those who occasionally exercise, 47.7 % were found to be satisfied with their health; among those who do not exercise, only 21.9 % were satisfied with their health and physical fitness.

To study the impact of motor activity on the health of law enforcement officers, we assessed the level of physical health according to the methodology of Professor H. L. Apanasenko among law enforcement officers who are systematically engaged in motor activity (Group 1,  $n = 45$ ), those who are engaged occasionally (Group 2,  $n = 86$ ) and those who are not engaged at all (Group 3,  $n = 32$ ). The results are presented in Table 1. It was found that law enforcement officers who systematically engage in motor activity have a significantly ( $p < 0.001$ ) better health level compared to those who engage in occasional motor activity (by 2.24 points) and do not engage in motor activity at all (by 5.12 points). At the same time, law enforcement officers in Group 2 also have a significantly better health level than those in Group 3 ( $p < 0.001$ ). At the same time, the health status of Group 1 corresponds to the average level, Group 2 – below average, and Group 3 – low.

These conclusions are confirmed by the ratio of law enforcement officers' physical health levels. Thus, in Group 1, the largest percentage of law enforcement officers have an average level (44.4 %), in Group 2 – below average (40.7 %), and in Group 3 – low (53.1 %). Moreover, in Groups 2 and 3, there were no law enforcement officers with high health levels, and the number of people with below-average and low health levels reached 74.4 % and 81.2 %.

## DISCUSSION

According to scientists [14], implementing the principles of maintaining a healthy lifestyle is ensured by an optimal daily routine, healthy sleep, regular exercise, outdoor activities, hygienic computer use, minimizing the use of smartphones, regular preventive examinations, timely prevention of chronic diseases, etc. By organizing their lives and choosing to lead a healthy lifestyle, each person has the choice to improve their health or ignore it, guided by personal responsibility for their own life, a high level of self-respect, the belief that healthy behavior helps create a quality life, and the availability of skills that contribute to this [15].

Physical exercises are of great importance for health promotion and disease prevention, as they can en-

**Table 1.** The impact of motor activity on the level of physical health of law enforcement officers (n = 163)

Indicators under study	Group 1, n = 45	Group 2, n = 86	Group 3, n = 32
Level of physical health, (M ± m) points			
Level of physical health	7.31 ± 0.26	5.07 ± 0.21	2.19 ± 0.31
p1-p2		< 0.001	
p2-p3		< 0.001	
p1-p3		< 0.001	
Ratio of physical health levels, number of people / %			
High	3 / 6.7	0 / 0	0 / 0
Above average	5 / 11.1	1 / 1.2	0 / 0
Average	20 / 44.4	21 / 24.4	6 / 18.8
Below average	10 / 22.2	35 / 40.7	9 / 28.1
Low	7 / 15.6	29 / 33.7	17 / 53.1

Note: M – arithmetic mean; m – error of arithmetic mean; n – number of law enforcement officers; p1-p2, p1-p3, p2-p3 – significance of difference between the indicators of law enforcement officers' health level of Group 1 and Group 2, Group 2 and Group 3, Group 1 and Group 3 due to the t-test.

sure high human productivity and a whole range of recreational and rehabilitation activities [16]. Physical activities contribute to the functioning of the immune system, which prevents both infectious and non-infectious diseases. Motor activity is considered a nonspecific activator, a modulator of immunity. The first to respond to physical activity is peripheral blood cells – neutrophils, which are an important part of immune defense. The subsequent effect of physical training is explained by both direct and indirect (through hemostasis, nervous, cardiovascular, and endocrine systems) effects on general and local immunity. In addition, motor activity helps to reduce the level of catecholamines in the blood, while increasing the level of endorphin-like peptides, improving sleep, and digestion, thereby regulating the function of the immune system and preventing deterioration of health due to stress [17].

Because of the war, Ukrainians are experiencing great stress and fear for themselves and their loved ones, which significantly worsens their health. In these conditions, according to experts [18], it is important to maintain physical activities, which help to reduce the level of the stress hormone cortisol. In addition, scientists [19] advise Ukrainians who are in a safe place to resume exercise and sports, as regular physical activities have many benefits: prevention of stress and improvement of mood; strengthening of the cardiovascular and respiratory systems; normalization of cholesterol, blood glucose, and blood pressure; strengthening of muscles, bones and ligaments; reduction of the risk of injury, strengthening of the musculoskeletal system, development of strength, endurance, flexibility and agility; improvement of brain activity, increase of oxygen supply to the brain; improvement of creative abilities. The results of our research have confirmed

the findings of many scientists regarding the positive impact of motor activity on human health, including law enforcement officers.

## CONCLUSIONS

The motivational and value-based attitude of law enforcement officers to motor activity as a factor of a healthy lifestyle has been studied. It has been found that more than 90 % of law enforcement officers have sufficiently substantive knowledge about the essence and components of a healthy lifestyle. The overwhelming majority of law enforcement officers (85.3 %) understand the importance of motor activity as a factor of a healthy lifestyle, its impact on physical and mental health, improvement of well-being, and quality of their professional activities. At the same time, more than 95 % of respondents are convinced that motor activity has a positive impact on the physical and mental health of law enforcement officers, improvement of physical development and quality of performance of assigned tasks, and formation of mental resistance to negative factors of service activities. Therewith, only 27.6 % of law enforcement officers systematically engage in motor activity, 52.8 % – sporadically, and 25.8 % – not at all. The main motivational factors that encourage law enforcement officers to engage in motor activity include the desire to improve their health (41.9 %); to increase their physical fitness (32.1 %); to improve their appearance (30.5 %), etc. It was found that the main reasons that prevent law enforcement officers from engaging in motor activity include lack of free time (65.6 %), lack of desire (31.3 %), fatigue after a service day (28.1 %), etc.

It has been established that law enforcement officers who systematically engage in motor activity have a significantly ( $p < 0.001$ ) better level of health (7.31

points) compared to those who engage in occasional motor activity (5.07 points) and do not engage in motor activity at all (2.19 points). The research has proven the positive impact of motor activity on the health of law enforcement officers.

## PROSPECTS FOR FURTHER RESEARCH

It is planned to investigate the dynamics of health indicators in law enforcement officers of different specialties during the performance of their service tasks under martial law.

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## CONFLICT OF INTEREST

The Authors declare no conflict of interest

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