

Maintaining a healthy lifestyle by service members under martial law

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ABSTRACT


Aim: To study the peculiarities of maintaining a healthy lifestyle by service members under martial law.

Materials and Methods: The research was conducted in 2022-2024 and involved 60 service members aged 22 to 54. According to their military rank, the respondents were divided into the following groups: junior enlisted (51.7%), non-commissioned officers (25%) and commissioned officers (23.3%). Methods: bibliographic, system analysis and generalization, medical and sociological (questionnaire survey), and statistical.

Results: It was found that a healthy lifestyle for most service members is associated with motor activities (51.7%), rational nutrition (55.9%), the ability to cope with stress (42.4%), and giving up bad habits (37.3%). Only 46.7% of service members adhere to the relevant principles, even though 55.0% of respondents named a HLS as one of the values in their unit. It was found that it is difficult to fully adhere to the principles of a healthy lifestyle under the conditions of war. 76.7% of service members have bad habits (the most common is smoking – 72.2%).

Conclusions: Promising means of forming a healthy lifestyle for service members are: positive motivation and personal conviction in the need to maintain a healthy lifestyle, high-quality medical care, conducting educational work with personnel about the benefits of leading a healthy lifestyle, etc. However, these measures will become fully effective only if we end the war with victory and liberate all Ukrainian lands from the occupying forces.

KEY WORDS: health, healthy lifestyle, service members

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INTRODUCTION

At all times, the observance of a healthy lifestyle (HLS) by service members and, as a result, the preservation and promotion of their health, has been and remains a task of the state level [1-3]. After all, only mentally and physically healthy service members are combat-ready and able to fully defend the country from invaders.

The full-scale war, which has already been going on for two years, has made and continues to make adjustments to the lifestyle of every Ukrainian, especially to the service members of the Armed Forces of Ukraine. In the process of performing their professional duties in wartime, the possibilities of observing the principles of a HLS are significantly limited, which leads to a deterioration in the psychological state of personnel, exacerbation of chronic diseases, and the initiation or return to bad habits – smoking, alcohol consumption,

and other stimulants and psychotropic drugs [4, 5]. The key to preserving the physical and mental health of service members under martial law is their adherence to the principles of a HLS [6, 7]. However, this issue is not sufficiently disclosed in scientific theory, which led to the choice of the research topic.

AIM

The aim is to study the peculiarities of maintaining a healthy lifestyle by service members under martial law.

MATERIALS AND METHODS

The research was conducted in 2022-2024 at Zhytomyr Medical Institute of Zhytomyr Regional Council and Zhytomyr Ivan Franko State University. The research

involved 60 service members (88.3 % men and 11.7 % women) aged 22 to 54 from different regions of Ukraine. According to their military rank, the respondents were divided into the following groups: junior enlisted (51.7 %), non-commissioned officers (25 %), and commissioned officers (23.3 %) from different branches of the Armed Forces of Ukraine.

Scientific methods: bibliographic, system analysis and generalization, medical and sociological, statistical. The bibliographic method included an analytical review of sources of scientific information on the research topic (19 sources from the scientometric databases Index Copernicus, Scopus, PubMed, and others were investigated). The method of system analysis and generalization was used to formulate conclusions based on the results of the research; medical and sociological – for questioning service members; statistical processing method – for processing the experimental data obtained in the course of the research. The questionnaire survey was anonymous and contained 41 questions aimed at studying the level of awareness of the service members of the Armed Forces of Ukraine about the essence of the principles of a HLS; studying the state of involvement of service members in a HLS; identifying the degree of coverage of service members with a HLS; assessing the impact of a HLS on the health and combat readiness of service members; identifying promising areas for preventing morbidity among service members through their adherence to a HLS. The results were used for scientific purposes only. The questionnaire survey was evaluated by the experts in this field (3 professors and 5 associate professors) and was approved by the Academic Council of Zhytomyr Ivan Franko State University (Protocol No. 2 dated 30.09.2022). Consent to voluntary participation in the survey was obtained from all the respondents involved in the research. This research followed the regulations of the World Medical Association Declaration of Helsinki.

RESULTS

The interpretation of the concept of a “healthy lifestyle” is determined by each service member personally, but the majority of respondents (51.7 %) tend to believe that it is an active lifestyle; 40 % of service members associate a HLS with rational nutrition, 41.7 % – with improving physical development, 38.3 % – with hardening, 33.3 % – with disease prevention. At the same time, our research did not reveal any dependence of the answers on age, gender, or type of military service.

As for the awareness of service members about the principles of a HLS, the answers of the respondents are presented in Fig. 1. As can be seen, despite the

mentioned rational nutrition (55.9 %), active recreation, exercises, and sports (61.0 %), 39 % of respondents indicated a positive attitude to life and 42.4 % – the ability to cope with stress.

The main sources of information on a HLS defined by the service members were the media (62.1 % of respondents), medical professionals (25.9 %), and colleagues (12.1 %). However, only 46.7 % of service members reported personal adherence to the principles of a HLS (Fig. 2).

According to the research results, only 6.8 % of respondents believe that their attitude toward a HLS is not supported in the unit and is not one of the core values. At the same time, 55 % of respondents reported that a HLS is still one of the values in their unit. In general, the attitude of 60 % of respondents to a HLS has changed since the beginning of the full-scale invasion of Ukraine by the Russian aggressor on February 24, 2022. Unfortunately, 40 % of service members began to pay less attention to maintaining a HLS. However, 53.4 % of respondents noted that the need to complete a combat mission contributes to the observance of a HLS. At the same time, 56.7 % of respondents believe that maintaining a HLS requires additional material costs.

The research also revealed the main strategies for overcoming the difficulties associated with restrictions on the need to maintain a HLS. The priority strategies are the use of hygiene products (60 %) and wet wipes (52.7 %), as well as compliance with the principles of occupational and rest hygiene (43.6 %).

The questionnaire survey also revealed that 25 % of respondents, regardless of age, gender, military rank, or type of military service, do not follow the rules of rational nutrition. However, 54.2 % of respondents indicated that the main ways to replenish their bodies were through a healthy diet and the consumption of fruits and vegetables. Only 16.7 % of service members do not have the opportunity to consume enough fluids. Every day, 18.6 % of respondents exercise, and 45.8 % exercise several times a week. The rest of the respondents rarely exercise for various reasons. Since the beginning of the full-scale invasion, 57.6 % of respondents have reduced the frequency of exercise and sports. Service members maintain their physical fitness in various ways, including exercising without being tied to exercise equipment, running, bodyweight exercises, morning warm-ups, military training, etc. A total of 26.7 % of respondents reported not being able to maintain good sleep hygiene. Unfortunately, 40.0 % of service members reported poor sleep quality due to frequent waking up; 11.7 % of respondents have problems falling asleep; 20 % of service members do not have regular sleep or have nightmares.

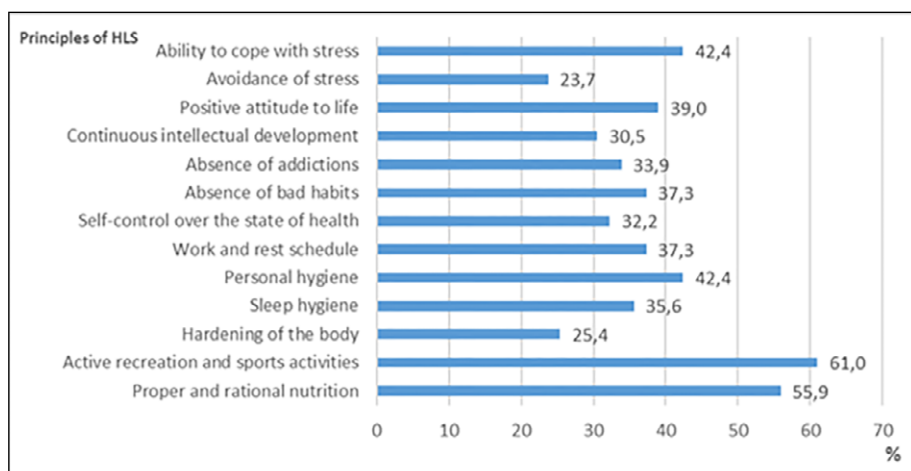


Fig. 1. Awareness of the principles of a HLS among service members (n = 60, %).

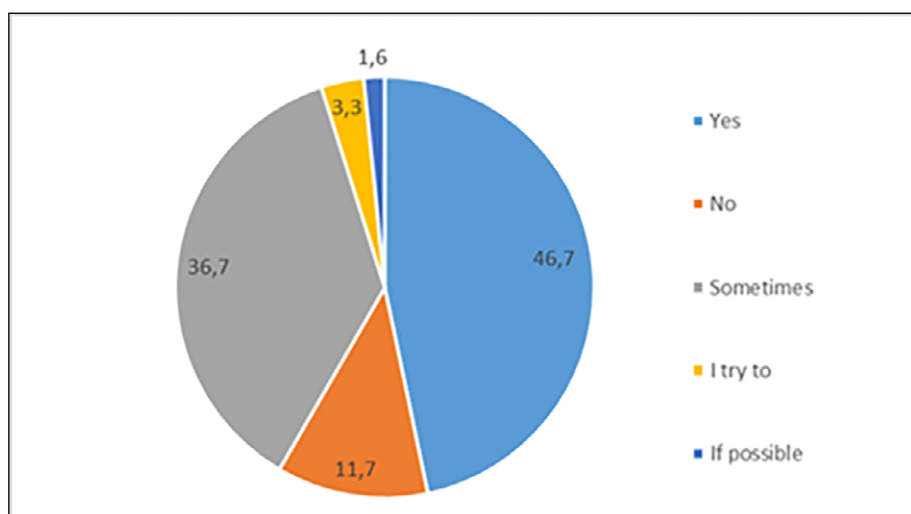


Fig. 2. Distribution of respondents by adherence to the principles of a HLS (n = 60, %).

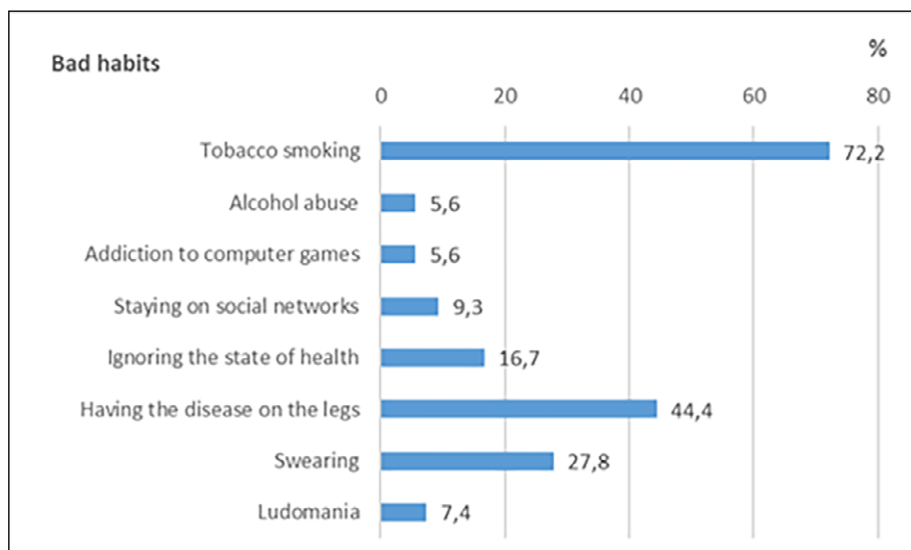


Fig. 3. Bad habits of service members (n = 60, %).

The questionnaire survey found that 50.8 % of service members seek medical care only when ill. Also, 13.6 % of respondents believe that monitoring their health by undergoing preventive medical examinations is a waste of time.

It was found that 76.7 % of service members have bad habits. The most common bad habit among service members is tobacco smoking (72.2 %) (Fig. 3).

It should be noted that during the war, neither the emergence of new nor the disappearance of old bad habits among the surveyed service members almost did not occur. Among the new bad habits, respondents mentioned smoking and swearing. However, among the habits that the military got rid of was also tobacco smoking. It was found that only 6.7 % of service mem-

bers believe that there is no connection between a person's well-being and adherence to a healthy lifestyle. 79.6 % of service members deny that they have chronic diseases due to non-compliance with HLS rules. At the same time, only 5.1 % of service members believe that a positive attitude to life and the socio-psychological climate have no impact on their overall well-being.

Especially in times of war, the ability of service members to control the impact of stress on the body is of great importance. It was found that 82.4 % of respondents can control the impact of stress in full and partially.

Among the changes that, according to respondents, should be introduced into the organization of daily, training and combat activities to promote a HLS among more service members are the following: positive motivation to maintain a HLS; compliance with the requirements of the daily routine, social guarantees for service members; high-quality medical care; conducting educational work with personnel about the benefits of maintaining a HLS; service time for sports and availability of means of versatile physical activities; victory over the enemy and the end of the war. According to servicewomen, the most effective options for improving their HLS are the following: a personal conviction in the need to maintain a HLS; encouragement to maintain a HLS; cooking with fresh meat, prohibiting the use of canned stewed meat in canteens, leaving it only in dry rations; proper nutrition; preventive medical examination; vitamin intake; compliance with the rules of work and rest, especially within the unit; motivation to get rid of bad habits; bringing the statutory requirements to the realities of today; conducting a campaign to take care of mental health; promoting continuous improvement of intellectual development; observance of social guarantees; ending the war with our victory, destruction, and elimination of all enemy armed forces on the territory of Ukraine; complete liberation of all territories from occupation forces.

DISCUSSION

According to the World Health Organization, individual "health" is a state of complete physical, spiritual (mental), and social well-being considered at the societal (population), group, and individual levels [8]. Physical health is determined by the state of functioning of the body when a person can perform all his or her duties (e.g., studying or household chores) without excessive fatigue; spiritual (mental) health is determined by the level of satisfaction with oneself, which arises as a result of the realization of capabilities and the ability to withstand stress; social health is determined by the

level of establishing and maintaining contacts with other people [9, 10].

The formation of human health is influenced by external and internal factors, including external factors such as health care structure; ecology; climatic and geographical zones; financial status; economic situation of the country, war, etc.; internal factors such as genetic changes; hereditary diseases; lifestyle and the presence or absence of certain habits [11]. Experts [12] advise to actively and gradually form a good habit, and adhere to a HLS, which involves sufficient physical activities, satisfaction of material and spiritual needs, information competence, social proactive attitude and obtaining a certain professional and social status, etc. Scientists [13, 14] identify the following as the main negative factors affecting human health: psycho-emotional overload; insufficient physical activities; irrational diet; and bad habits (smoking, excessive alcohol consumption, substance abuse, various types of addictions).

By organizing their lives and choosing to lead them in a HLS, each person has the choice to promote their health or ignore it, guided by the following: personal responsibility for their own life, a high level of self-respect, the belief that healthy behavior helps to create a quality life and the availability of skills that contribute to this [15]. However, the war in Ukraine, as a social phenomenon, poses a serious threat to the principles of a HLS. Because of the war, Ukrainians are experiencing great stress and fear for themselves and their loved ones, which significantly worsens their health.

A HLS and strict adherence to safety measures are important components of the successful performance of military duty by each service member. The procedure for organizing a system of measures aimed at promoting health, preventing diseases, and comprehensive physical development of our country's service members is regulated by the Laws of Ukraine, the Statutes of the Armed Forces of Ukraine, orders, instructions, and other regulatory documents. According to the recommendations of the COSC (Combat Operation Stress Control) unit, representatives of the NATO army, the main components that affect the combat capability of each soldier are the so-called "survival triad": sleep, activity, and nutrition [16]. Given that no country in the world has had the same experience in combat operations over the past 70 years as Ukraine, we believe it is appropriate to add "personal hygiene" and "emotional and motivational component" to this triad. Staying in a combat zone involves partial or complete lack of sleep, and is accompanied by irrational nutrition, and physical and mental overload, which leads to many disorders of the service member's body. In addition, the war significantly reduces access to basic needs, such as water, heat,

food, and hygiene products [17]. In combat situations, service members face stressful and traumatic situations every minute, experiencing various emotions, usually keeping them to themselves and not discussing them with anyone. This results in many negative conditions, such as depression, psycho-emotional burnout, loss of meaning and apathy, and even suicidal crisis [18]. At the same time, according to scientists [19], the issue of maintaining a HLS and preventing various diseases is of utmost importance. According to the results of numerous studies, spending money on the early detection of possible diseases and their timely prevention reduces the financial burden of treating service members and veterans in the future.

CONCLUSIONS

The overwhelming majority of the surveyed service members associate a HLS with motor activities (51.7 %) and improved mental and physical health (41.7 %). In addition to the principles of a HLS mentioned above, the respondents also declared rational nutrition (55.9 %), the ability to cope with stress (42.4 %), and the rejection of bad habits (37.3 %). Under martial law, 40.0 % of the respondents began to pay less attention to a HLS. Only 46.7 % of service members adhere to the

relevant principles, even though 55.0 % of the respondents named a HLS as one of the values in their unit and noted its connection with the successful completion of combat missions.

It was found that it is difficult to fully adhere to the principles of a HLS in war. 76.7 % of service members have bad habits. The most common bad habit among service members is tobacco smoking (72.2 %). However, despite the wartime restrictions, a certain number of service members maintain their physical fitness in all available ways. An optimistic attitude to life and the creation of a positive social and psychological climate in military units contribute to motivation to maintain a healthy lifestyle.

According to the respondents, the following are promising means of forming a HLS of service members: positive motivation and personal conviction in the need to observe a HLS, high-quality medical care, conducting educational work with personnel about the benefits of maintaining a HLS, etc. However, these means will become fully effective only if we end the war with victory, eliminate all enemy armed forces on the territory of Ukraine, and completely liberate all Ukrainian lands from occupation forces.

Prospects for further research are aimed at finding new approaches to engaging the majority of service members in a HLS.

REFERENCES

- Oja L, Piksööt J. The Influence of Previous Lifestyle on Occupational Physical Fitness in the Context of Military Service. *Int J Environ Res Public Health*. 2023;20(3):1860. doi:10.3390/ijerph20031860. [DOI](#)
- Bookwalter DB, Porter B, Jacobson IG et al. Healthy behaviors and incidence of overweight and obesity in military veterans. *Ann Epidemiol*. 2019;39:26-32.e1. doi:10.1016/j.annepidem.2019.09.001. [DOI](#)
- Kao TC, Kazman JB, Cheng YH et al. Healthy lifestyles among military active duty service members, and associations with body-building and weight-loss supplement use. *Ann Epidemiol*. 2021;53:27-33. doi:10.1016/j.annepidem.2020.08.011. [DOI](#)
- Mullie P, Clarys P. Beer, wine and lifestyle: a cross-sectional study of the Belgian military population. *Mil Med Res*. 2015;2:33. doi:10.1186/s40779-015-0066-x. [DOI](#)
- Collins RA, Baker B, Coyle DH et al. Dietary Assessment Methods in Military and Veteran Populations: A Scoping Review. *Nutrients*. 2020;12(3):769. doi:10.3390/nu12030769. [DOI](#)
- Shams-White MM, Chui K, Deuster PA et al. Investigating Items to Improve the Validity of the Five-Item Healthy Eating Score Compared with the 2015 Healthy Eating Index in a Military Population. *Nutrients*. 2019;11(2):251. doi:10.3390/nu11020251. [DOI](#)
- Pierce JR, DeGroot DW, Grier TL et al. Body mass index predicts selected physical fitness attributes but is not associated with performance on military relevant tasks in U.S. Army Soldiers. *J Sci Med Sport*. 2017;20(4):S79-S84. doi:10.1016/j.jsams.2017.08.021. [DOI](#)
- Lidén J. The World Health Organization and Global Health Governance: post-1990. *Public Health*. 2014;128(2):141-147. doi:10.1016/j.puhe.2013.08.008. [DOI](#)
- Sinclair JR. Importance of a One Health approach in advancing global health security and the Sustainable Development Goals. *Rev Sci Tech*. 2019;38(1):145-154. doi:10.20506/rst.38.1.2949. [DOI](#)
- Jarvis T, Scott F, El-Jardali F, Alvarez E. Defining and classifying public health systems: a critical interpretive synthesis. *Health Res Policy Syst*. 2020;18(1):68. doi:10.1186/s12961-020-00583-z. [DOI](#)
- Cleaveland S, Sharp J, Abela-Ridder B et al. One Health contributions towards more effective and equitable approaches to health in low- and middle-income countries. *Philos Trans R Soc Lond B Biol Sci*. 2017;372(1725):20160168. doi:10.1098/rstb.2016.0168. [DOI](#)
- Sidosiss A, Gaviola GC, Sotos-Prieto M, Kales S. Healthy lifestyle interventions across diverse workplaces: a summary of the current evidence. *Curr Opin Clin Nutr Metab Care*. 2021;24(6):490-503. doi:10.1097/MCO.0000000000000794. [DOI](#)

13. Babić R, Babić M, Rastović P et al. Resilience in Health and Illness. *Psychiatr Danub*. 2020;32(2):226-232.
14. Kabayama M, Watanabe C, Ryuno H, Kamide K. Positive and negative associations of individual social capital factors with health among community-dwelling older people. *Geriatr Gerontol Int*. 2017;17(12):2427-2434. doi:10.1111/ggi.13094. [DOI](#)
15. eBioMedicine. Healthy ageing begins with a healthy lifestyle. *EBioMedicine*. 2023;89:104528. doi:10.1016/j.ebiom.2023.104528. [DOI](#)
16. Maglione MA, Chen C, Bialas A et al. Combat and Operational Stress Control Interventions and PTSD: A Systematic Review and Meta-Analysis. *Mil Med*. 2022;187(7-8):e846-e855. doi:10.1093/milmed/usab310. [DOI](#)
17. Inoue C, Shawler E, Jordan CH et al. Veteran and Military Mental Health Issues. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing. 2023.
18. Schermann H, Ben-Ami IS, Tudor A et al. Past Methylphenidate Exposure and Stress Fractures in Combat Soldiers: A Case-Control Study. *Am J Sports Med*. 2018;46(3):728-733. doi:10.1177/0363546517741705. [DOI](#)
19. Steele M, Germain A, Campbell JS. Mediation and Moderation of the Relationship Between Combat Experiences and Post-Traumatic Stress Symptoms in Active Duty Military Personnel. *Mil Med*. 2017;182(5):e1632-e1639. doi:10.7205/MILMED-D-16-00169. [DOI](#)

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

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