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# Psycho-emotional conditions in primary care physicians who serve in a direct vicinity to the frontline

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## Abstract

**Introduction.** Armed conflicts, wars, social/economic/political/national/racial conflicts and rebellions have been accompanying all periods of the historical development of the mankind. Within the framework of the above-mentioned crises from the point of view of existentialism and the development of the community of events, each person was assigned a certain unique role that was associated with equally unique physical and psycho-emotional consequences. However, even in the XXI century, history, philosophy, medical and political sciences, potentially try to equate the psycho-emotional spectrum of experience that combatants, medical workers, and representatives of the civilian population take on. The Russian Federation's full-scale war against Ukraine shook the continent and became, undoubtedly, an unprecedented trigger for revising the above concept. Thus, based on the fundamental philosophical theory of

utilitarianism, as the clue of formation of the palette of human actions, compared with the vision of leading scientists about the specifics of post-demobilization and reintegration processes, as well as those that ensure the social inclusion of ex-combatants, the civilian population and, in particular, medical specialists, who work directly on the front line and, ultimately, completing with the actual scientific and practical experience of a global cohort of medical scientists, who since 2019 have emphasized the relevance of highlighting the different spectrum and specifics of the development of psycho-emotional conditions specifically in front-line medical workers in the framework of a critical existential situation; all this leads to the need to separate representatives of the health care sector into an independent category of active persons within the ongoing wartime, not only from the point of view of the role they play at the front, but also from the point of view of unique psycho-emotional conditions experienced by them under the prism of the profession/role they perform.

**Materials and methods.** Unsystematic observation, deduction, induction, synthesis, analysis, factor analysis, statistics, survey.

**Results.** Within the frame of our research, we highlighted the uniqueness of the psycho-emotional conditions that are being developed among primary care physicians in wartime conditions. In addition, we analyzed the relationship between the development of psycho-emotional disorders in the aforementioned professional group and the degree of impairment of their reintegration and social inclusion in the post-war/post-demobilization period. Concepts, visions and recommendations were created to optimize both the psycho-emotional well-being of first-line medical specialists and their more optimized social inclusion into civilian post-war professional and social life. This scientific work includes a detailed description of the psycho-emotional conditions that are inherent in first-line doctors who serve and/or served in a close vicinity to the front lines of a full-scale war. Postwar reintegration into civilian life, however, alongside with the additional triggers that can possibly affect the deterioration and/or exacerbation of the development process of the above-mentioned primary conditions, will be considered by us in separate scientific works.

**Discussion.** This study revealed and analyzed the uniqueness of the psycho-emotional conditions that are being faced by primary care physicians under the prism of war, namely within the framework of service on the line of direct vicinity to the frontline. Thanks to an in-depth analysis of available literary sources, as well as our own practically applied research, we have proven the uniqueness and specificity of the above-mentioned conditions, including the principles of their development, as well as psycho-emotional and socio-cultural triggers that deepen the crisis level of these states. Thanks to the comprehensive analysis that was carried

out as part of our research, and which will be described in the further part of the work, there is a prospect of creating a scientific and practical basis for effective prevention, diagnosis, optimization and treatment of specific psycho-emotional conditions in primary care physicians serving on the frontline, which will allow not only the domestic, but also the global society to prevent the repetition of the negative phenomenon of the "lost generation", to change the socio-cultural vision of the role and position of the doctor in the conditions of hostilities, as well as to create mechanisms for the successful implementation of effective strategies for the reintegration and social inclusion of first-line doctors to the normalized peaceful civilian life in the post-war/post-demobilization period in order to prevent a crisis of social adaptation inherent in this stage of interaction with the surrounding society.

**Keywords. Primary care physicians; war; armed conflict; psycho-emotional disorders; PTSD; anxiety; stress; insomnia; burnout; somatoform disorders**.

## ПСИХОЕМОЦІЙНІ СТАНИ У ЛІКАРІВ ПЕРШОЇ ЛАНКИ, ЯКІ СЛУЖАТЬ У БЕЗПОСЕРЕДНІЙ НАБЛИЖЕНОСТІ ДО ЛІНІЇ ФРОНТУ

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**Анотація**

**Вступ.** Збройні конфлікти, війни, соціальні/економічні/політичні/національні/расові сутички та заколоти супроводжували всі періоди історичного розвитку людства. В рамках вищенаведених кризових з точки зору екзистенціалізму та розвитку спільноти подій, кожній особі відводилась певна унікальна роль, з якою пов’язували так само унікальні фізичні та психоемоціональні наслідки. Однак, навіть у XXI столітті, історія, філософія, медична та політична науки, за можливістю, намагаються прирівняти психоемоційний спектр досвіду, який переймають на себе комбатанти, працівники

медичної сфери, а також репрезентанти цивільного населення. Загарбницька війна російської федерації проти України сколихнула континент і стала, без сумнівів, безпрецедентним триґером для перегляду вищенаведеної концепції. Так, базуючись на фундаментальній філософській теорії утилітаризму, як седна формування палітри вчинків особи, зіставлені із баченням провідних вчених про специфіку постдемобілізаційних, реінтеграційних процесів, а також таких, що забезпечують соціальну інклюзію екс-комбатантів, цивільного населення та, зокрема, медиків-спеціалістів, що працюють безпосередньо на лінії бойового зіткнення і, врешті-решти, довершуючи актуальним науково-практичним досвідом глобальної когорти вчених-медиків, які з 2019 року підкреслювали релевантність виділення різного спектру та специфіки розвитку психоемоційних станів конкретно у працівників медичної сфери першої ланки в рамках кризової, з точки зору екзистенції, ситуації, - все це призводить до необхідності виокремлення представників сфери охорони здоров'я в незалежну категорію діючих осіб в рамках триваючого воєнного часу не тільки з точки зору ролі, яку вони відіграють на фронті, але і з погляду на унікальні психоемоційні стани, які переживаються ними в рамках професії/ролі, яку вони виконують безпосередньо на лінії бойового зіткнення.

**Матеірали і методи.** Несистематичне спостереження, індукція, дедукція, синтез, аналіз, факторний аналіз, статистичний метод, анкетування.

**Результати дослідження.** В рамках нашого дослідження ми відзначили унікальність психо-емоційних станів, що розвиваються у лікарів-спеціалістів першої ланки в умовах воєнного часу. Додатково нами було проаналізовано взаємозв'язок між розвитком психо-емоціональних розладів у даній професійній групі, із ступнем порушення їхньої реінтеграції та соціальної інклюзії у поствоєнний/постдемобілізаційний період. Було створено концепції, бачення та рекомендації для оптимізації як психо-емоціонального благополуччя лікарів-спеціалістів першої ланки, так і їхнього полегшенного соціального включення до цивільного поствоєнного професійного і соціального буття. Дана наукова праця включає детальний опис психоемоційних станів, що є притаманними для лікарів першої ланки, що служать та/або служили у безпосередній наближеності до лінії бойового зіткнення в рамках повномасштабної війни. Постулати поствоєнної реінтеграції до цивільного життя, а також додаткові тригери, що можуть впливати на погіршення та/або загострення процесу розвитку вищезазначених первинних станів, будуть розглянуті нами в окремих наукових працях.

**Обговорення.** Дане дослідження дозволило виявити та проаналізувати унікальність психо-емоційних станів, що розвиваються у лікарів першої ланки в умовах війни, а саме в рамках служби на лінії безпосередньо бойового зіткнення. Завдяки глибинному аналізу наявних літературних джерел, а також нашого власного практичного прикладного дослідження, було доведено неповторність та специфічність вищезазначених станів, включаючи принципи їхнього розвитку, а також психо-емоційні та соціо-культурні триґери, які поглиблюють рівень кризисності даних станів. Завдяки повноцінному аналізу, що його було проведено в рамках нашого дослідження, та яке буде описано у подальшій частині праці, існує перспектива створення науково-практичного підґрунтя для ефективного запобігання, попередження, діагностування, оптимізації та лікування специфічних психо-емоційних станів у лікарів першої ланки, що дозволить не тільки вітчизняному, але і глобальному суспільству не допустити повторення негативного феномену "загубленого покоління", змінити суспільно-культурне бачення ролі та позиції лікаря в умовах бойових дій, а також створить механізми успішної імплементації ефективних стратегій реінтеграції та соціальної інклюзії лікарів першої ланки до нормалізованого мирного цивільного життя у післявоєнних/післядемобілізаційний період задля запобігання кризі соціальної адаптації, що є притаманною для данної стадії інтеракції із оточуючим суспільством.

**Ключові слова. Лікарі першої ланки; війна; збройний конфлікт; психоемоційні розлади; ПТСР; тривога; стрес; безсоння; вигорання; соматоформні розлади**.

**Introduction.** Wars, armed conflicts, political and/or societal instabilities, rebels and other destructive social happenings have been accompanying the process of the global community development over the centuries and generations of the human history. But, all of the aforementioned tragic events have something in a common i.e. the generation which is being literally "generated" out of it. While discussing every single armed conflict, war, revolution, rebel or any event which we have mentioned before, since the very beginning of our societal existence we do not try anything but eliminate a factual opportunity to belong to the so-called "lost generation". Even though, this postulated was officially presented only after the end of the WWI, the meaning of this notion would be subconsciously recognized by anyone who have ever witnessed war crises personally. Thus, the Lost Generation is the demographic cohort that reached early adulthood during World War I, and preceded the Greatest Generation. The social generation is generally defined as people born from 1883 to 1900, coming of age in either the

1900s or the 1910s, and were the first generation to mature in the 20th century. Gertrude Stein is credited with coining the term, and it was subsequently popularized by Ernest Hemingway, who used it in the epigraph for his 1926 novel The Sun Also Rises: "You are all a lost generation."[4][5]. "Lost" in this context refers to the "disoriented, wandering, directionless" spirit of many of the war's survivors in the early postwar period. Eventually, there were many people committing suicide as a result of not being able to "fit in" the post-war societal realities. Nowadays, as we try to analyze all modern armed conflicts that take place around the World, and especially while taking into account the ongoing full-scale war initiated by Russia in 2022 with a basic triggering of drastic events in 2014, we shall definitely consider a high probability of creation of such a generation once again i.e. among representatives of the Ukrainian society as defenders of their Patria's liberty. However, alongside with trying to avoid the aforementioned negative scenario we should also objectively distinguish "persons who need help" and those who do not need it under the frame of being an active participant/witness of the war/armed conflicts related traumatizing event. Unfortunately, the pathetic postulate which was provided above appears to still be actual within both civil society and combatants, as both our ancestors and our modern generation have been dividing ones who are supposed to ask for help, and the other ones "who does not dare to seek for help, especially psychological one". The second societal category includes in particular primary care physicians who, under the prism of the ongoing war/armed conflict or natural disaster, or every other massively tragic event, do not "dare to ask for help, especially, if it might involve psychological issues, stresses, war-related disorders etc". The aforementioned expectation/societal bias is functioning in a two-dimensional way: 1) The civil society of both war and post-war period becomes "deaf" to psychological needs of those "who are normally supposed to provide help themselves". Even in the global society of the modern era, we do still notice a significant difference between psychological potential of every medical doctor in front of the eyes of danger, and the one which is expected from this professional. Predominantly, every community wants the doctor "to be a guarantor of the societal health and wellbeing" whilst the wellbeing of this doctor is not being taken into consideration anyhow. 2) The long lasting prosperity of the aforementioned societal biases activates a mentally destructing program within the professional group of the medical staff itself, making those people unwilling to seek for help and, especially, for one which involves psychological professionals. What is more, such a negative scenario deteriorates within the frame of the ongoing wars, armed conflicts, rebels and any other negative societal event (or even natural disasters and catastrophes) that may demand an active participation of medical staff in the aim of reliving the existent condition. Thus, the perpetual societal biases

deteriorates not just a personal wellbeing of medical staff within the frame of the ongoing traumatizing event, but also destroys the inner-societal relationships between representatives of the medical personnel and ordinary citizens and/or combatants.

In the longer perspective however, or, precisely to say, in the post-war period, exactly the inability "to be heard by an appropriate professional" might not just deteriorate a general wellbeing of the medical doctor who have survived the war while serving directly on the frontline (or in a long distance from one but within the war period in general), but also may increase a level of risk of suicidal tendencies alongside with a subsequent development of the "lost generation" formed within the analyzed professional group separately.

That is why, we should take into precise consideration the problematic of improving the psychological condition of medical staff, especially those professionals who are serving directly on the frontline. It will not just optimize the wellbeing of those medical doctors, but also will positively improve the general mental and physical of civil society and combatants who are being cured by these doctors. Last but not least, it will provide a fundament of preserving and sharing the precious professional medical knowledge which was accumulated by the medical doctors serving directly on the frontline with the post-war professional generation as well as with the global medical science as it is. The more improved the psychological wellbeing of those professionals serving on the frontline will be, the more valuable and active impact they will be able to bring to the global medical science in the future.

Therefore, within the spectrum of our research papers we are going to disclose the problematic of specific psycho-emotional conditions which we were able to diagnose in the medical doctors serving directly on the frontline within the frame of the russian military aggression against Ukraine since 2014; the problematic of main prerequisites of the post-war reintegration of medical professionals into the normalized civil society, as well as main mechanism of optimization of psycho-emotional reintegration of those specialists into the society within the post-war peaceful realities. Within the frame of this research paper, we are focusing on special psycho-emotional conditions which predominantly appear in medical specialists serving directly on the frontline.

**Aims of the study.** To analyze and measure specific psycho-emotional conditions which the medical staff (especially primary care physicians) on the frontline may suffer from in the conditions of the full-scale war in Ukraine.

**Research methods.** Unsystematic observation, deduction, induction, synthesis, analysis, factor analysis, statistics.

**Research results and its discussion.** To implement our current scientific research within the framework of our general research activity on the matter, we have chosen a questionnaire (google Form) as a key research method in order to determine the specifics of the formation, development, as well as construction of visions and concepts regarding the prevention and optimization of primary and secondary psycho-emotional conditions that accompany primary care physicians who are serving on the frontline within the wartime conditions.

In order to conduct an effective survey, we led it on the basis of our voluntary work in DAR for peace and equality, the international non-formal group based in Milan (Italy) which is actively engaged in both scientific and practical studies of postulates of optimization of the integration, reintegration and social inclusion of refugees, migrants, and forcibly displaced persons, especially those ones who possess a specific migrational experience deteriorated by the war-related trauma.

The aforementioned questionnaire was conducted anonymously (in compliance with the legal requirements for the processing of personal data both on the territory of Ukraine and in the territory of the EU [38, 39]. Within the frame of our survey, we gathered 276 participants, citizens of Ukraine who are/were serving as primary care physicians, among whom we distinguish 113 women and 163 men; 78 primary care physicians who are currently working in the direct vicinity of the battle line; 123 primary care doctors who work relatively further from the direct frontline and/or in areas/regions of Ukraine further away from the direct battlefield; 75 primary care physicians who were demobilized as a result of mutilations, injuries, or retirement and who, consequently, went abroad to different countries. The last group of professionals will be analyzed in our subsequent research papers, as their unique post-war experience should be considered under the prism of the re-integration processes.

The age group of our study is represented by primary care physicians from 26 to 73 years old, who come from different regions of Ukraine, but (what is crucial) possess a direct experience of serving both in wartime conditions and in conditions of the direct vicinity of the battlefield (within the frame of both current full-scale war led by russia in the territory of Ukraine, and the one which was initiated by russia in 2014 against Eastern regions of Ukraine and the Crimean Peninsula). The time frame of the analyzed research: 2022-2024.

Primarily, we divided the anonymous questionnaire into two logical parts (as two parts were supposed to be rationally and equally devoted to both primary and secondary psycho-emotional conditions which the primary care doctors serving under the conditions of the direct vicinity to the battlefield, suffer from). In the first part of our survey i.e. in the one which was dedicated to analyzing primary psycho-emotional conditions in the aforementioned social group, we

asked our respondents to rate on the scale from 0 to 10 the presence of specific manifestations of certain psycho-emotional conditions in them, where the “0” meant the absence of those manifestations, whilst “10” was supposed to mean the maximum level of manifestation). Within this part of the questionnaire, the following conditions were distinguished: PTSD, stress, depression, sleep disorders (insomnia), burnout, somatoform disorders and anxiety. In addition to the self-assessment part of the questionnaire, we have also provided a brief additional explanation of main symptoms of those conditions which were mentioned above. It was done basically to avoid misunderstandings and wrong treatment of psycho-emotional condition that we were analyzing within the professional group. It is important to mention that the questionnaire in it second part presented also a wide range of open questions (predominantly Wh-questions) regarding unique experiences of our respondents. However, the basic goal of explaining unique experiences of primary care physicians who have been working on the frontline was dedicated to analyzing a correlation between primary and secondary psycho-emotional conditions which are being developed in the social group and, subsequently, may influence the process of reintegration into the civilian society. At the same time, the secondary conditions will be considered as a main research aim within our following research paper alongside with the additional explanation of socio-emotional prerequisites which may aggravate or facilitate the development of the analyzed psycho-emotional conditions which were mentioned in the first part of the questionnaire.

In addition to the data which was accumulated on the basis of anonymous questionnaires, our conclusions and prognosis are also based on relevant scientific and practical literature in the sphere of development, prevention and optimization of psycho-emotional disorders/conditions which appear to be a characteristic feature of the critical stage of the societal development from the perspectives of social existence, as well as rationale.

Basically, using the keywords “mental health”, “mental disorder”, “stress”, “anxiety”, “depression”, “sleep disorder”, “burnout”, “medical staff/doctor”, “wartime”, "combat actions", “primary care physician", "impact", "factors", "countermeasures" and other thematic words or keywords, we searched the literature databases PubMed, Web of Science, Sino-Med and CNKI, and then the literature was checked and sorted. For the PubMed example, the search formula was: (((Covid-19[MeSH Terms]) OR (Covid-19[Title/Abstract])) AND (((((Stress, Psychological [MeSH Terms])) ) OR (Anxiety [MeSH Terms])) OR (Depression [MeSH Terms])) OR (Disorders of falling asleep and maintaining sleep [MeSH Terms])) OR (dyssomnia [MeSH Terms])) OR (((Mental health [MeSH Terms]))]) OR (Mental

Health[Title/Abstract])) OR (Mental Disorders[MeSH Terms]))))) AND ((Healthcare[Title/Abstract]) OR (Healthcare[MeSH Terms])) .

The creation of the aforementioned basis alongside with appropriate sources of scientific and practical literature which is provided in the "References" block of this research paper, assisted us in creation of a high-quality and effective anonymous questionnaire for its distribution among respondents within the part 1.1. of the practical stage of our research.

**Basic results of the anonymous survey which was led among respondents. Identification and analysis of the main prerequisites of development of conditions that were identified within the research. Categorization and analysis of psycho-emotional conditions which appeared in the respondents**

**Supplements**

**Table 1**

**The frequency of common mental health problems among primary care physicians**

| Category | Overall prevalence (%) | Prevalence among primary care physicians who currently serve on the frontline (%) | Prevalence among primary care physicians who were demobilized from either direct vicinity to the frontline or from the medical service in general (%) |
|---|---|---|---|
| Stress | 40.3 (34.1~46.9) | 46.0 (37.2~54.0) | 30.4 (19.0~43.5) |
| Anxiety | 35.1 (32.7~37.7) | 39.4 (35.6~44.3) | 23.6 (21.3~29.2) |
| Depression | 33.6 (32.0~38.4) | 41.4 (38.0~45.7) | 30.1 (26.1~33.7) |
| Insomnia | 33.7 (29.1~38.5) | 49.1 (44.0~55.1) | 27.9 (21.8~33.4) |
| PTSD | 29.6 (19.6~40.6) | 35.7 (24.4~49.1) | 23.7 (17.5~33.7) |
| Burnout | 42.6 (34.3~50.2) | 41.0 (31.2~50.4) | 32.1 (20.8~47.4) |
| Somatoform disorders | 23.4 (10.5~45.1) | 30.1 (18.1~45.2) | 26.7 (12.5~48.1) |

Meta-analysis of 276 participants, citizens of Ukraine, who currently work (Group 1) or have worked in the health care system since the beginning of 2022 (and subsequently were demobilized due to health conditions, or transferred to the rear of the front) (Group 2) ), as well as those who left Ukraine after demobilization (Group 3) (in our case, the following countries were considered: the Republic of Italy (27 people), the Republic of Poland (18 people), the Czech Republic (23 people), Slovakia (6 people) , Slovenia (1 person), showed that the frequency of mental health problems among frontline health workers, regardless of whether they continue to be directly on the front line or have already been demobilized, is: 37.1% reported anxiety, 37 .6% reported depression, 43.7% reported insomnia, 41.3% reported stress, 30.6% reported PTSD, and 37.1% reported depression. 43.6% reported exhaustion, a 25.0% reported somatic symptoms. Table 1 represents the data which was gathered by us as a result of the survey which was led.

### 1.1. Stress

A stress response is a non-specific response that occurs in people when their body is exposed to various stressors. This reaction includes two categories: physiological reactions and psychological reactions. Among the physiological reactions, we highlight the stimulation of the sympathetic nerve, increased secretion of pituitary and adrenal cortex hormones, increased blood sugar, blood pressure, increased heart rate and breathing. Psychological responses to stress include emotional, self-defense, and coping responses. When a person exhibits an inappropriate psychological and physiological response to stress, it is called a stress disorder. The two main stress disorders are acute stress disorder (ASD) and post-traumatic stress disorder (PTSD) [13-19].

At the beginning of the full-scale invasion by Russian Federation troops, stress reactions were common among medical personnel with a detection rate of 73.4% in the early stages. The study found that 27.39% of front-line healthcare workers suffered from acute stress disorder, with women reporting higher levels of stress than men. In 2023, an anonymous survey, which is the foundation of this study, was conducted among 35 doctors who worked on the front line. This survey showed that the frequency of mild, moderate and severe stress reactions was 31.62%, 26.15% and 17.91%, respectively. In general, it is worth noting that participation in and/or observation of active hostilities has significantly affected the mental health of first-line medical workers, especially women, who are more likely to suffer from stress disorders.

Healthcare workers can develop post-traumatic stress disorder (PTSD) as a result of extreme stress during healthcare crises. PTSD is characterized by symptoms such as re-experiencing the

traumatic event, avoiding situations that remind of this event, persistent emotional numbing, hypervigilance, and irritability. Healthcare workers who are in close proximity to the battle line often see a large amount of maiming, death, suffering, etc., which can have a significant impact on their mental health and overall psycho-emotional wellbeing. A study of first-line medical workers in the framework of active hostilities in eastern Ukraine showed that 25.8% of subjects reported symptoms of post-traumatic stress disorder. In a study conducted in August 2024, 10.5% of 83 primary care workers between the ages of 27 and 65 had symptoms of PTSD. Another study conducted in July - August of the same year, with the participation of 42 medical professionals, showed that post-traumatic stress disorder reached 23.3%. Our study showed that post-traumatic stress disorder is correlated with such factors as working in a dangerous environment, the specifics of the construction of socio-cultural values and traditions of the community/region/city/area from which this specialist doctor comes, the original interpretation of the position/role of the doctor first link by the specialist himself (or for him/herself) this role is associated with the "flagship of the health care system", which does not give him/her the right to make mistakes/pain/suffering and express his/her own emotions, or he/she objectively evaluates and declares the state of his psycho-emotional well-being in working conditions on the front line and after demobilization).

### 1.2. Fear and anxiety

Fear is a reaction to threatening events that leads to certain behaviors that help a person cope with or avoid those threats. In mild cases, this reaction can manifest as fear or apprehension, while in severe cases it can lead to panic and anxiety, accompanied by symptoms such as palpitations, shortness of breath, trembling limbs and excessive sweating. Fear can cause lingering anxiety even after the danger has passed. Pathological anxiety is a constant feeling of tension, worry and fear without a rational basis. This is often associated with the physical and autonomic dysfunctions observed in anxiety disorders [20-36].

Primarily, individuals at risk of being injured/killed/severely maimed as a result of active hostilities ongoing in their state/region/locality, etc., as well as those who are concerned about their personal health/well-being/life and their families, may experience severe symptoms of anxiety. In a February 2023 survey of frontline health workers (those ones who currently serve on the front line), anxiety was found to be prevalent among 23.04% of participants. The rates of mild, moderate, and severe anxiety were 16.09%, 16.09%, and 2.17%, respectively. The study also found that anxiety was more common among women than men (25.67% vs. 11.63%).

### 1.3. Depression

Main symptoms of a depressive episode include depressed mood, decreased interest, and anhedonia. They are often associated with anxiety, cognitive changes, somatic and behavioral symptoms, including inattention, unresponsiveness, sleep disturbances, decreased volitional and behavioral activity, and fatigue [25-28]. A study conducted in February 2024 found that the incidence of depression was significantly higher among first-line medical workers who continued to be in direct combat contact than in those who transferred back home or were at least demobilized from the battlefield (43.6% vs. 36.8% p=0.028). A meta-analysis of healthcare professionals in the first place found that 29% of them showed symptoms of depression. The subgroup analysis showed a higher prevalence of depression among married women with a bachelor's degree or higher. According to our study, the increased risk of developing depression among primary care physicians is correlated with the following factors: an increased level of socio-cultural expectations in relation to the position/role of a doctor in martial law languages; an inflated level of expectations in relation to the role of a first-line doctor in the conditions of martial law in the specialist her-/himself, which is accompanied by an unbiased assessment of his/her psycho-emotional conditions under the prism of being directly on the frontline (but also after demobilization from the front); fear and uncertainty about the fate/life/social, mental, physical, economic well-being of the family; critical experience of the postulate of "social injustice" associated with being directly on the front line while colleagues can work in the rear, or in the immediate distance from the front (in relatively safe zones) (this factor was separately stated by several of our respondents, first-line doctors currently on the battlefield).

### 1.4. Sleep disorders

Sleep disorders develop over time as innate sleep cycles and patterns are disrupted by trauma, stress and life events, personality, emotional state, and environment. The stressful work environment and workload of primary care physicians serving directly on the frontline can disrupt the sleep patterns of medical workers. This can lead to insomnia, sleep disturbances, and nightmares [30-33]. Chronic sleep deprivation in health care workers can lead to physical fatigue, low energy, and poor appetite the next day, as well as impaired cognitive function, decreased attention, and an increased likelihood of making mistakes. In April and May 2022, we conducted a cross-sectional survey of 43 first-line medical workers. The study found that 16 (39.8%) respondents reported sleep problems. Symptoms of anxiety and depression were also associated with sleep difficulties. A meta-analysis conducted on April 17, 2023, estimated

that the prevalence of insomnia among first-line health workers after almost a year of working in full-scale war was 38.9% (29). Another meta-analysis the following year found a 40% prevalence of insomnia among healthcare workers currently working directly on the front lines, as well as those who had already been demobilized or transferred away from the front line.

### 1.5. Somatoform disorders

Somatoform disorders involve physical symptoms that have no obvious medical cause. These conditions are caused by emotional stress and can include pain, numbness, paralysis, blindness, hearing loss, or other physical problems. Affected individuals may use these physical symptoms to express or alleviate their emotional problems [34]. A survey from February to March 2023 found that 13.41% (36 of 276) of primary care workers had physical symptoms. In June-July of the same year, a study reported 27.4% of physical symptoms among health workers, with primary care physicians who are serving in a direct vicinity to the frontline (28.8%) having a significantly higher prevalence than doctors distant from the front or ones who were demobilized (18.2%). It is important to emphasize that some health professionals may have symptoms such as somatoform disorders or sleep disorders rather than overt mental health problems such as anxiety and depression.

### 1.6. Burnout

Burnout is a psychological syndrome which is caused by prolonged work pressure that cannot be effectively managed. It is characterized by emotional exhaustion, dehumanization, and low personal achievement. In 2019, WHO officially classified burnout as a syndrome in the 11th revision of the International Classification of Diseases (ICD-11) [20-30]. Frontline health workers can experience burnout due to long working hours, insufficient resources, lack of control over their work, and adverse working conditions. An overall prevalence of 43.6% was found in a meta-analysis of burnout among healthcare workers working directly on the front line. It is important to note that the prevalence of burnout syndrome among primary care physicians working in active combat conditions (and, especially, in close proximity to the front line) is a cause for concern. In addition, the proportion of female primary care physicians with severe emotional exhaustion was higher than that of male physicians (0.42 vs. 0.28). Working in the conditions of prolonged active hostilities, and actually directly on the front line, from the point of view of medical specialists working directly on the frontline, requires constant attention and proactive interventions to reduce the risk of burnout.

### 1.7. Professional fatigue caused by the prolonged compassion due to the loss/disability/suffering of the next of kin/partners/colleagues/combatants/civilian population experienced by the primary care physician

Compassion fatigue is common among medical and emergency workers, who are often exposed to negative emotions such as pain and grief for long periods of time during a rescue, which can lead to psychological distress such as apathy. It is characterized by mood swings, decreased empathy, stereotyped and impressionistic attitudes toward patients, and symptoms of irritability. It includes a combination of two measures: occupational burnout (chronic occupational stress that reduces the desire to work) and secondary trauma (traumatic symptoms resulting from prolonged exposure to the suffering of others) [31-34]. Primary care physicians, regardless of whether they continue to work in the area of active hostilities, or are already providing care in the rear, or have retired from professional duties some time after the start of a full-scale invasion, and as a result of long service in the war zone, mostly report a low subjective level of compassion. Moreover, the indicator of "own" assessment of the level of compassion by first-line doctors directly correlates with our objective expectations regarding this index, and is manifested in a moderate decrease of this indicator according to the time of service in the conditions of direct combat by specialists. Therefore, the longer a medical specialist serves in the conditions of ongoing active hostilities, being in close proximity to the front line, the higher the level of compassion fatigue this specialist experiences.

The survey score on compassion was $32.63 \pm 6.46$. The study also concluded that compassion fatigue is related to several factors. These include the specifics of the workplace, history of exposure, loneliness in civilian life and/or in combat situations (including the absence of biological comrades, colleagues who can be counted on in a critical situation), work environment, sleep and resilience.

### Conclusions

1. The postulate of the development of special psycho-emotional conditions in medical doctors serving on the frontline within the ongoing full-scale war is complex and should be analyzed from several perspectives. According to the analytical approach, in particular, we emphasize proactive and reactive visioning i.e. we should not underestimate either timely prevention and diagnosis of these conditions, or the fundamental nature of the post-war/post-demobilization reintegration of a given individual into the realities of the normalized civilian life.

2. Literature sources within the framework of the analyzed topic are rather poor, scientists do not distinguish between the psycho-emotional conditions experienced by combatants, representatives of the civilian population and, even more so, the primary care physicians working directly on the frontline within the conditions of the full-scale war. Eventually, if the psycho-emotional conditions of civilians under the prism of various existential crisis have been somehow analyzed throughout the years (e.g. the PTSD which was experienced by various communities around the World under the condition of the Coronavirus crisis; environmental disasters; armed conflicts and their basic influences on life of the civil society), medical staff has never been analyzed under this prism at all.

3. The aforementioned postulate is mostly related to a historically rooted social approach, which nowadays managed to turn into a general cultural prejudice on a global scale, where the position/role of a medical specialist, especially, one who belongs to the sphere of the primary care, is associated with the role of a "flagship savior of the general life support system". No matter, how this role corresponds to the general needs of the analyzed profession, under the prism of our research, social prejudices build a wall of social "misunderstanding" of the of the basic needs/fears/desires/beliefs etc of the primary care physicians and every other medical specialist working on the frontline. Thus, for the most part, not only the surrounding community, but also the professional group which the specialist belongs to, rejects the possibility of not only qualified help in case he/she is experiencing a critical psycho-emotional condition, but even the predominantly they do not even assume that such a condition may be developing in them. The influence of this negative tradition is also associated with a destructive socio-professional tendency where a primary care physicians serving on the front line, even in case of experiencing a critical psycho-emotional condition, he/she decides to isolate his/her own trauma and not to inform his/her own environment about it. Under the prism of active hostilities, such an "isolation" is possible from the perspective of basic survival mechanisms. On the other hand, however, immediately after the onset of the post-demobilization stage, which requires the reintegration of this specialist into peaceful life, ignoring the pre-detected conditions that have developed under the influence of the experiences inherent in the combat experience, lead to a critical deterioration of the forecasts related to the successful, effective and quick return of this specialist to the realities within the civilian existence.

4. Main psycho-emotional conditions which are being experienced by primary care physicians within the frame of the ongoing war, should be generally divided into primary and secondary ones. Among the primary psycho-emotional conditions, we distinguish those that are mostly experienced under the prism of serving in the zones of the direct proximity to the combat

lines: PTSD, insomnia, anxiety, sleep disorders, depression, burnout, etc, among the secondary psycho-emotional conditions, we distinguish those that critically affect the success of the processes of reintegration and social inclusion of an individual in the post-war/post-demobilization period, among which we highlight, in particular, healing amnesia, migrational nomadism, violation of the sense of belonging, antisocial personality disorder, etc.

5. Psycho-emotional disorders of both type in primary care physicians are interrelated, and are being formed according to a specific strategy, sequence, and can also trigger/initiate the development/return of the related conditions in case of non-complex optimization of the symptom palette.

6. The degree of traumatization of the primary care physicians as a part of primary psycho-emotional conditions which are being developed in wartime conditions is directly correlated with the degree of severity of secondary psycho-emotional conditions that are being highlighted within the reintegration stage of the analyzed specialist i.e. once he/she is supposed to be adapted to the post-war civilian life.

7. The specific prerequisites of the development of psycho-emotional conditions in the primary care physicians who serve directly on the frontline within the ongoing full-scale war mostly depend on the level of his/her socio-cultural well-being before the beginning of traumatic events (in our case, before the beginning of the full-scale invasion of the Russian Federation on the territory of Ukraine in 2022); educational and scientific level; the presence of special achievements; gender; age group; as well as on the level of general psychological stability in relation to the events of socio-existential crisis.

**Perspectives for Future Research:** 1. To analyze main triggers which may cause aggravation of the primary psycho-emotional conditions in the primary care physicians serving in the direct vicinity to the frontline. 2. To analyze main prerequisites as well as ways of optimization of the postwar reintegration and social inclusion of medical staff (especially, primary care physicians) under the prism of their reintroduction to the normalized civil realities after the end of war and/or after demilitarization.

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