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Chapter

Impact of COVID-19 on Mental Health of Oncology Healthcare Workers and Interdisciplinary Collaboration

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Abstract

The 2019 coronavirus pandemic has caused serious health crises around the world such as psychological reactions of health workers. The way we work (stress, anxiety) and the activities assigned to pharmacists, such as vaccination, have changed. In addition to these problems, numerous ethical questions and moral doubts are increasingly emerging are inevitable during the treatment and care of patients in this extremely difficult situation. Work in the oncology department is stressful even when there is no epidemic/pandemic. Constant changes in hospital protocols, reorganization of work, influx of patients, work in intensive conditions and other new challenges of adaptation to the new situation affect both the physical and mental health of healthcare workers. Together with physicians and nurses, pharmacists were one of the professional categories most exposed to the risk of SARS- CoV-2 infection since the pandemic onset. Together with this crisis, pharmaceutical care entered a new phase demonstrating the ability of pharmacists to be competent and accessible providers of public health. Preserving the mental health of healthcare workers are very important so that they can perform their work with quality and conscientiousness. Health care corporations should consider providing coverage for mental health treatment for employees who experience COVID-19 traumas.

Keywords: COVID-19, healthcare workers, interdisciplinary collaboration, mental health, oncology

1. Introduction

The coronavirus first appeared in the world at the end of 2019 in Wuhan, China. Very fast the virus spread beyond the borders of China, a global pandemic prevailed. Soon scientists identified a new strain of the virus that the World Health Organization named severe acute respiratory syndrome coronavirus 2 or SARS-CoV-2 for short. The disease has become better known as COVID-19 and has become part of the everyday life of people around the world. The virus continues to spread at a high speed and affects an increasing number of patients, and the death rate is increasing every day.

COVID-19 is currently the biggest global and health problem that countries are trying to deal with by introducing numerous epidemiological measures and maintaining social distance [1]. Although the appearance of the virus itself has taught us a lot so far, there are still many uncertainties regarding this virus, its origin, development, and spread of the disease, and they are being considered every day and applying new methods in the treatment. COVID-19 has changed the world and affected it in many aspects, and it left a big mark on the healthcare system. Increasing volume of work, increased number of seriously ill patients and dying patients, sick nurses, and thus a lack of staff to work are just some in a series of numerous problems that appeared or became even more pronounced during these pandemics. In addition to these problems, numerous ethical questions and moral doubts are increasingly emerging and are inevitable during the treatment and care of patients in this extremely difficult situation. COVID-19 put “on the second plan” the treatment of all other diseases in order to prevent the spread of the virus and the risk from the disease of immunocompromised and palliative patients. However, although the primary goal of this is to protect patients from even greater complications, it often has the opposite effect because certain therapies and examinations are delayed and the patient is not able to receive the appropriate one healthcare and protection. Infection with the coronavirus can cause numerous symptoms and signs of the disease. Considering the severity of the disease, symptoms can be divided into mild, medium, and severe. They are mostly connected with the respiratory tract, but numerous nonspecific symptoms of the disease may also be present; the diagnosis of the disease can often be difficult or the disease is not recognized in time. Respiratory symptoms of the disease are often very similar to a cold or the flu, so it is very important to distinguish whether it is a viral infection or flu, because the method of treatment and further procedure with the patient depends on it. Some of the most common symptoms of most patients are dry cough, elevated body temperature, rhinorrhea, headache, general weakness, and muscle pain [2]. Somewhat rarer and nonspecific symptoms of the disease can be nausea, loss of appetite, vomiting, and diarrhea. In very few cases, skin changes in the form of a small red dotted rash were also observed. Also, a symptom which appears very often and can be one of the first signs of the coronavirus is the loss of the sense of taste and smell (anosmia), which can be absent for several weeks after healing. Severe symptoms of the disease include pressure and pain in the chest, dyspnea, difficulty breathing, and feeling of suffocation. Patients with these symptoms should be hospitalized immediately for the treatment. Based on previous analyses, the average incubation is 5.1 days, and an infected person develops symptoms within 11.5 days of infections [3]. Lifestyle habits can play a big role in recovery, which can positively or negatively affect the repair, depending on the life habits of the person. Recovery is slowed down if the person is undisciplined and does not follow health instructions. For example, continued smoking, bad eating habits, too much fatigue from heavy physical activities instead of resting, not taking prescribed therapy on time, refusing therapy and the like, all that may slow down or prevent recovery. There are numerous health conditions that require special attention because the health condition of these persons is in itself impaired. Therefore, it is necessary to look at all the risks that may come into consideration. Extremely sensitive groups of patients, regardless of age, are people who have a transplanted organ, people who suffer from some malignant disease, people who have a certain autoimmune disease, people with severe lung diseases such as asthma and cystic fibrosis, people suffering from extremely rare diseases that are prone to severe infections such as combined immunodeficiency, people using high doses of immunosuppressants’ medicines, pregnant women with severe heart

disease, and people with any heart disease. All of these diseases and conditions should be kept in mind, and first of all protective measures should be taken to prevent the occurrence of the disease. It is the best method of preventing any complications and unwanted deaths. There are many aspects of staying in the workplace with increased risk of infection which may affect both mental health and well-being. COVID-19 is a contagious disease, and healthcare workers must deal with potentially harmful problems like prolonged fear of being infected and spreading the disease to the family members, insufficient supplies in personal protective equipment, inconvenience of wearing them, extended working hours, sudden changes in a work schedule, additional tasks, excess work, pressure as well as prejudice and social fears. In response, workers may develop a range of behavioral (e.g., effects on performance), physical (e.g., headache, gastric disorders, etc.), and psychological (e.g., mood swings, decreased motivation, depressed thoughts, and isolation) reactions [4]. Concerns are now being raised about the mental health, psychological adjustment, and recovery of health professionals treating and caring for patients with COVID-19. This pandemic poses a major challenge to social, economic, and, above all, the psychological resources of the population. Undoubtedly, healthcare workers are the most exposed category. Supporting the mental health of healthcare workers is a critical part of the public health response.

2. Consequences of mental health in oncology health workers

Cancer is a serious disease, probably the most serious of all, and treatment is very important. The information we constantly receive about COVID-19 can be disturbing. People who have overcome cancer or are still struggling with a malignant disease, as well as their loved ones, can be very worried, considering that this disease and its therapy can reduce the body's ability to fight the coronavirus infection. Maintaining physical distance, frequent and thorough hand washing, avoiding gathering in groups, disinfecting surfaces, and avoiding touching the face with unwashed hands can be a good strategy for everyone, but strict adherence to these measures is especially important for oncology patients who may be immunocompromised. The term "immunocompromised" refers to individuals whose immune system is considered significantly weaker compared to the immune system of a healthy adult. The primary role of the immune system is to defend the body against infections. "Immunocompromised" people are at a higher risk of being infected with an infectious disease, such as the viral infection of COVID-19. There are many reasons why the immune system can be weakened, among others: if a person suffers from cancer, diabetes, heart disease, if the person is elderly or if he is a smoker. Oncology patients have a significantly higher risk of their immune system becoming "compromised" or weakened. It mostly depends on the type of cancer, the type of oncology therapy they receive, their age, and other existing diseases. The risk is greatest at the time of active oncological treatment, i.e. during the period when the patient receives chemotherapy. There is no exact test that can determine whether someone is "immunocompromised" or not, but based on blood findings such as a reduced number of white blood cells or a reduced number of antibodies (immunoglobulins), it can be concluded that the immune system is significantly weakened [5]. Stress at work, i.e. critical incidents with which oncologists meet, can cause symptoms post-traumatic stress, anxiety, depression, and syndrome combustion. Factors that most often cause stress in working with oncology patients are the following: the severity of the diagnosed

disease, the increase in the patient's expectations, unsatisfactory care for the patient, the inability of the doctor to control the outcome of the results of his own work and care for the patient, problems related to the patient's family, lack of staff and technology in order to provide the patient with appropriate treatment, too much responsibility of the doctor, communication problems within the team that cares for the patient, too much workload, administrative problems mechanism, working conditions, low salaries, inadequate social support, the status of young newly employed doctors, the end of a doctor's career, lack of opportunities for promotion, decline, and reducing the feeling of gratitude of patients and superiors [6]. Work in the oncology department is stressful even when there is no epidemic/pandemic. Because in the most active phase of life, work takes away most of the time it is to be expected that the work environment will become a source of great stress and loads. Accumulation of stress is the most common cause of mental difficulties, while anxiety is the most common condition with which nurses and technicians in oncology, but also in nursing in general, they meet almost every day. In nursing practice, there is often an excessive workload, but too little load can also be a cause of stress. Too little load is the result of repetitive, routine, and insufficiently stimulating work tasks. Quantitative work overload implies too many tasks in a given period of time, while qualitative indicates a lack of knowledge and experience in performing certain tasks. Both types of work overload and lack of time to perform tasks are significant risk factors in the development of anxiety and depression. Overtime, shift work and on-call combined with night work affect the bio-psychophysical rhythm of a person's functioning. Accompanying complaints appear in the form of chronic fatigue, decreased immunity, gastrointestinal disorders, headaches, and others. Work with antineoplastic therapy is by its nature stressful due to its complexity, and potential complications can cause fear of making a mistake and at the same time additionally endanger a person's life which is going through its own stressful, and in some cases, traumatic experience. On the other hand, the work of cytostatics potentially endangers the health of the person who prepares and applies the therapy and comes into contact with bodily secretions of a person undergoing active treatment. The demandingness of this part of healthcare can impose a sense of personal responsibility for the patient's health and life. In addition to the harmfulness of the therapy, the potential risk and danger for the healthcare workers are represented by the patients with serious mental disorders as a result of primary mental illness and/or secondary in relation to the diagnosis of a malignant disease or the use of certain drugs. In addition to the harmfulness of the therapy, the potential risk and danger for the healthcare workers are represented by the patients with serious mental disorders as a result of primary mental illness and/or secondary in relation to the diagnosis of a malignant disease or the use of certain drugs. Epidemics and pandemics uniquely threaten health, because effective treatment or medicine is often not available. Unlike other types of emergencies, these threats to health can take a long time, with a high degree of uncertainty about progression or disease control. Healthcare workers were involved in the fight during every epidemic/pandemic and risked their lives. In such emergency situations, high-risk situations subject to numerous competing duties, such as duties toward patients, protection from unnecessary risk of injury, duty toward family, colleagues, and society, which can cause great stress and even lead to long-term psychological consequences. Symptoms associated with mental health problems predominantly included expression, anxiety, or stress. This can lead to additional cognitive and social problems, as well as long-term problems, including post-traumatic stress disorder (PTSD). These problems can affect the function in the workplace and negatively at

work environments can lead to mental health problems. Each person reacts and focuses on stressful situations differently. Some focus on solving the problem, while others deny reality, struggle with change, feel guilty, or withdraw. If stress exceeds human strength and exhausts the ability to cope, it can lead to pathological reactions. Among other things, stress is responsible for reducing professional satisfaction and well-being of the individual, as well as stagnation in personal development, absence from work, reduction in quality of service, or more errors. The pandemic has a significant emotional impact on patients but also on health workers who are in charge of helping the infected. Their workload is further increased by the high and persistent risk of exposure and death, by separation from their loved ones, which may be forced or due to extended work shifts. Watching of traumatic images of their seriously ill or dying patients in an overloaded environment with chronically low drug supplies, experiencing hopelessness due to large human losses despite all efforts to provide care, management of human bodies, experiencing quarantine, witnessing the death of their colleagues, lack of reinforcements and replacement, fatigue, and burnout are just some of the traumas they have to endure during the course of work. Supporting the mental health of healthcare workers is a critical part of the public health response. Not only did the pandemic change the way and the conditions we work in, bringing with it stress, anxiety, and other psychological problems, but also did it change the tasks and activities assigned to pharmacists. One of the most significant changes the COVID-19 pandemic brought to the pharmacy practice was vaccination. Prior to Covid-19, the vaccination service delivery was available in a limited number of countries; during the worldwide response to the pandemic, it became a routine service delivered by pharmacists (among other healthcare workers) in various settings. Although the approval/authorization of vaccines against SARS-CoV-2 meant having new and effective means of fighting against the virus and at the same time the beginning of the control of the pandemic, it also probably brought up more questions than answers. Would the vaccines be safe? Would they be effective? How will the vaccines be distributed? And stored? Who will prepare them and administer them? Massive administration of the doses all around the globe would provide equally massive amounts of clinically relevant data. Mental health is a prerequisite and fundamental determinant of quality of life. Research on the psychological effects of outbreaks of infectious diseases such as SARS epidemics and H1N1 pandemics on mental health shows consistent patterns of responses by healthcare workers. Staffing challenges include not only increased workloads that create such epidemics and pandemics but also the fear of the possibility of infecting oneself, one's family, and loved ones. Working in a new environment where protocols are often changed, personal protective equipment is applied, with overtime, and most importantly providing caring for the sick in new circumstances causes a great mental burden in healthcare workers. In many cases, the infection spreads rapidly and as it is seen with the COVID-19 infection, difficult decisions had to be made, for example, about who is suitable for intensive treatment and who is not. They understand the gravity of the situation very well, healthcare workers, and less so by the public, which makes it difficult to adapt to the situation for the purpose of adherence to epidemiological measures. Infection control measures and use of personal protective equipment put healthcare workers in aggravating circumstances due to more difficult communication with patients, and staff may feel guilty that such isolated patients "die alone." Many healthcare workers will become infected, with the possibility of developing a severe form of disease that can result in death. Research has shown that health workers who had to go into isolation feel guilty for leaving the "front" and colleagues.

They also fear the possibility of infecting their families, loved ones, and patients. As the profession of a healthcare worker is a profession which has an increased tendency for teamwork, in quarantine health workers suffer from loneliness, boredom, and exhaustion. The COVID-19 pandemic has caused many changes in our lives. Numerous challenges have emerged that need to be addressed, both in professional and private life. Uncertain forecasts, inability to plan and forecast, measures of limited movement, job losses, and financial losses are just some of the stressors. Cancer patients, whose immunity is compromised by therapies, belong to the most at-risk group and are justifiably concerned about their health. They need to be reassured but advised to follow all instructions. In individual counseling, oncology patients should be helped to organize their daily routine, as everyone who is in self-isolation is advised. The only difference is that patients need to continue their treatment, and their outings from the safe home, to be reduced as much as possible, just to go to therapy. All other consultations with physicians should be conducted by telephone or online communications. In addition to patients who are already being treated for cancer, those patients who have just been diagnosed with a malignant disease also feel great fear. They are afraid that treatment will be delayed, and because of that, the treatment outcomes will not be good either. Ultimately, as a risk group, they fear infection more than nonrisk individuals, because the mortality of oncology patients infected with the coronavirus virus is far higher than the mortality in the general population. But cancer mortality is far higher, and they should be encouraged to continue their treatment. People who have some symptoms that may indicate the appearance of malignancy should be advised to go to their family doctor, to check if they can postpone the tests or to do them if the doctor advises. The data of some hospitals that they have fewer registered oncology patients is worrying. This does not mean that the incidence has dropped, but that patients do not go to the doctors for fear of the corona virus.

3. Multidisciplinary approach in the treatment of COVID-19

What seems most important, at the time of a pandemic, is that patients receive all the important information. The source of information must be professional, high quality, and reliable. A quality source of information is reflected in a multidisciplinary team. Multidisciplinary teams and the integration of a clinical/oncology pharmacist are necessary for optimal oncology care. By introducing consultation with a clinical/oncology pharmacist, who focuses on relevant issues, it significantly raises the quality of life, explaining the therapy itself, and emotionally preparing for what follows. Caring for patients during an epidemic/pandemic may impact negatively on the mental health of healthcare workers. The psychological responses of healthcare workers to the pandemic of infectious diseases are complicated. In a short time period, healthcare workers used a large part of their abilities in controlling how to spend their time, where to direct their attention, and how best to use scarce resources. The foundation of best care for cancer patients is without a doubt the well-being of oncology healthcare workers, where burnout has been most extensively studied. Burnout phenomenon and prevention among oncologists were known to be significant even before COVID-19 pandemic; however, it has gained strength since the global influence of coronavirus on healthcare system. The long-term nature and scope of this impact are still unknown. High level of anxiety has been noticed among oncology healthcare workers during the first period of COVID-19 pandemic in the United States

and Singapore [7, 8]. Actually, physicians of various specializations suffer from the distress caused by COVID-19. In the study from Wuhan, China, the authors noticed that oncologists and nurses working directly with COVID-19 patients did not deal with such significant burnout like their colleagues who stayed in their familiar/previous settings. According to authors' opinion, the reason of this can be greater feeling of control due to direct involvement and mobilization connected with fighting with COVID-19. Thus, it can be concluded that the impact of COVID-19 on mental health and well-being is complex as well as it differs between regions and specializations [9]. Daily work with seriously ill patients had consequences for all members of the healthcare team. Nurses suffer physical and emotional stress every day, by caring patients and facing numerous ethical and moral challenges that this pandemic has brought with it. Due to insufficient healthcare workers, insufficient resources, and a large number of deaths, nurses are in a conflict of professional values every day. More and more nurses are sick with COVID-19, and some have died as a result of the disease which they received by performing their duty. Due to the large amount of stress and emotional suffering that passes, nurses need great courage, strength, and endurance when working and fighting with this virus, and during that time they are away from their families and loved ones. Patients who suffered from other severe chronic and incurable diseases were put on long waiting lists. The operating theaters were almost completely closed, and only emergency operations were performed. If someone got sick or had an accident, they should be hours in order to be able to come for an examination or to the clinic to dress a wound. Because of the increased costs for procuring protective equipment and all medicines necessary for the treatment of COVID-19, the "budgets" for other medicines and necessities have decreased, so often oncology patients were left without their expensive medicines, which they cannot afford on their own. Chemotherapy and radiation were postponed, so many were in uncertainty as to what would happen to their treatment. An oncology-palliative patient infected with the coronavirus is faced with numerous problems that they still have not managed to solve in the health system. So, it is not uncommon for them to undergo chemotherapy and radiation that are delayed due to lack of space or the impossibility of obtaining medicine. When they come to their own term of therapy, due to epidemiological measures, they mostly remain alone in the room, which is negative. It affects their psychological status because they feel lonely, sad, and rejected, and this can lead to the development of depression. Dissatisfaction was also observed among nurses who work in the oncology and palliative wards because due to the prescribed measures, their income has reduced interaction with the patient, so the psychological part of help and therapeutic communication are almost completely absent. Furthermore, the redistribution of staff due to the need for work in other departments in part of the pandemic leads to some nurses remaining to work with palliative care patients, so the nurses do not have enough time to dedicate themselves equally to each patient because of the scope of work. Similar problems are present in the oncology-palliative patient he visits and who is in home care [10]. Due to the lack of teams on the field and the increased number of palliative care users, the same problems develop as in many inpatients healthcare institutions. In addition to numerous organizational problems, lack of personnel, emotional stress caused by work, increased number of patients, ethical issues, and moral doubts making numerous decisions became another big burden during the implementation of palliative care for patients with COVID-19. Due to the increased volume of work and the number of patients due to the pandemic, stress is pronounced more than ever before. Great mental stress, seeing death every day, and great emotional stress pressure led to the psychological burnout of many healthcare

workers. Professional burnout has many negative effects on the body and mental health of the individual, which ultimately affects engagement and efficiency in work.

Psychological burnout can be defined as a continuous affective stress reaction that develops over a long period of time and consists of emotional exhaustion, feelings of inadequacy, success, and depersonalization. The most pronounced dimension of psychological burnout is most often emotional exhaustion. It arises due to intense emotional feelings that appear in interaction with patients and ultimately lead to irritability, fatigue, and decreased enthusiasm at work. Caring for the dying, looking death in the eye every day, dealing with dead bodies, and a large number of health-care workers had an emotional breakdown. The long-term impact of the pandemic is still not fully known on the mental state of healthcare workers, but dealing with other people's suffering, pain, and death contributes to great psychological burnout. Watching how every day more and more young people were dying from this virus left a hard impression on the emotional consequences for health personnel. Shortness of breath, rapid breathing, coughing fits and coughing up large amounts of secretions caused great anxiety and fear in patients. Many nurses and doctors described how the fear of suffocation was present in all patients' lack of air and death and the impossibility of saying goodbye to the family. Due to major traumas and stressful situations experienced at work, healthcare workers are also at risk of developing PTSD (post-traumatic stress disorder). Faced with daily difficult decisions, they often struggle with feelings of guilt and they wonder if all the decisions were made well and if they could have done something better for such difficult patients. Every day they struggle with difficult decisions such as who to resuscitate and which one put the patient on a ventilator, and the biggest feeling of guilt is caused by the fact that due to the large scope work and lack of staff, many patients die alone and have no one to lend a hand to. Because of that harmonization of professional duties, which include making ethical decisions, has brought great pressure at work, and ethics meetings are very rare or almost nonexistent because for them it is simple, there is no time, or it is currently being neglected due to other important matters. Because of the immense courage and help they provide to the entire community, healthcare workers were often referred to by the public and the media as "heroes in white coats." The uncertainty of when humanity will return to normal has become an additional burden and pressure.

An unprecedented rate of sadness and depression has been recorded, which can be devastating in the short and long term and affect individuals and society. This is why it is extremely important to take steps to solving long-term psychological stress, especially for health personnel. Self-care should be encouraged, and the support of family and colleagues is crucial and should always be available. In 2020, the medical academy issued a recommendation for the well-being of healthcare workers during the pandemic, including meeting basic human needs, respecting differences, and respect for human rights. The upheaval in the professional role of healthcare workers in dealing with the COVID-19 infection leads to new challenges and adjustments in the entire healthcare sector. Increased education, training, and preparation of health workers for work in crisis situations is one of the more effective measures to alleviate mental pressure for health workers. Therefore, in crisis situations, it is important to strengthen the enthusiasm, knowledge, and conscientiousness of healthcare workers. A closer monitoring of and active intervention for the mental health of healthcare workers should be continued. According to data from the literature, young health workers have more experienced stress levels and have higher anxiety than the elderly. One of the possible reasons why older workers show less symptoms and difficulties with mental health is that many older workers experienced this in their practice and

for this reason developed better coping skills. Women can be assumed to be more emotional, and they have a more empathetic attitude toward patients and their families, which consequently leads to excessive self-responsibility for the life and health of patients [11]. Although in these difficult times, healthcare workers provide their services to the maximum, and they still need help and support from their superiors. Psychological treatment such as cognitive behavior therapy and mindfulness therapy could be helpful. In this specific time period passing under the sign of COVID-19 pandemic, healthcare workers should be provided with psychosocial and mental health support, especially the groups, where the risk is high. It is obvious that healthcare workers are willing to be welcomed, listened to, supported, and protected by their organizations. With the spread of SARS-Cov-2 virus and vaccination, we can clearly distinguish three additional responsibilities of pharmacists: vaccine administration allowance (and mostly preparation), issuing of certificate of vaccination, and prescribing allowance. Also, the pandemic accelerated the process of increasing interdisciplinary approach to the patient care which can be certainly viewed as an advantage. On the other hand, new challenges as well as an increase in the workload affect the mental health of healthcare workers. Pharmacists are the most accessible healthcare workers, and their role in the health sector is very significant. The role of pharmacists in hospital and community pharmacies is multiple: experts in drugs and medicines, healthcare providers and stakeholders, educators, counselors, mentors, managers, leaders, business developers, researchers, etc. [12]. Together with physicians and nurses, pharmacists were one of the professional categories most exposed to the risk of SARS-CoV-2 infection since the pandemic onset. Together with this crisis, pharmaceutical care entered a new phase demonstrating the ability of pharmacists to be competent and accessible providers of public health. The inclusion of pharmacists in multidisciplinary teams, during this pandemic, has been very useful and important. Pharmacists gained new experiences and practices, which will certainly be of great use to them for some new challenges in the future. New situation leads to the rapid development of a multiprofessional approach in everyday work, development of certain narrowly specialized areas of professional and scientific work, and standardization of all procedures in the treatment process. This is exactly the foundation of quality-designed pharmacy, medical, and nursing care. It is essential that the support on mental health is fast, to avoid the severe disorders which can lead to dysfunctions, sufferings, and in the extreme cases, when not recognized and treated early enough cause even death. Due to COVID-19 pandemic, healthcare workers have been separated in many different aspects which are very challenging for the society to comprehend. Healthcare corporations should take into account protection and care for employees who experience COVID-19 traumas.

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References

- [1] Kisely S, Warren N, McMahon L, Dalais C, Henry I, Siskind D. Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: Rapid review and meta-analysis. *BMJ*. 2020;**369**:m1642
- [2] Wu D, Wu T, Liu Q, Yang Z. The SARS-CoV-2 Outbreak: What we know. *International Journal of Infectious Diseases*. 2020;**94**:44-48
- [3] Lauer SA, Grantz KH, Bi Q, Jones FK, Zheng Q, Meredith HR, et al. The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: Estimation and application. *Annals of Internal Medicine* (Philadelphia, PA). 2020;**172**(9):577-582
- [4] Giorgi G, Lecca LI, Alessio F, Finstad GL, Bondanini G, Lulli LG, et al. COVID-19-related mental health effects in the workplace: A narrative review. *International Journal of Environmental Research and Public Health*. 2020;**17**(21):7857. DOI: 10.3390/ijerph17217857
- [5] Cancer. Net. Common Questions About COVID-19 and Cancers: Answers for Patients and Survivors. 2020. Available at: <https://www.cancer.net/blog/2020/04/>
- [6] Wong TW, Yau JK, Kwong RS, Chan CL, Kwong RS, Ho SM, et al. The psychological impact of severe acute respiratory syndrome outbreak on healthcare workers in emergenc departments and how they cope. *European Journal of Emergency Medicine*. 2005;**12**(1):13-18
- [7] Ng KYY, Zhou S, Tan SH, Ishak NBD, Goh ZZS, Chua ZY, et al. Understanding the psychological impact of COVID-19 pandemic on patients with cancer, their caregivers, and health Care Workers in Singapore. *JCO Global Oncology*. 2020;**6**:1494-1509
- [8] Thomaier L, Teoh D, Jewett P, Beckwith H, Parsons H, Yuan J, et al. Emotional health concerns of oncology physicians in the United States: Fallout during the COVID-19 pandemic. *PLoS One*. 2020;**15**(11):e0242767
- [9] Wu Y, Wang J, Luo C, Hu S, Lin X, Anderson A, et al. Comparison of burnout frequency among oncology physicians and nurses working on the frontline and usual wards during the COVID-19 epidemic in Wuhan, China. *Journal of Pain and Symptom Management*. 2020;**60**(1):e60-e65
- [10] Kates J, Gerolamo A, Pogorzelska-Maziarz M. The impact of COVID-19 on the hospice and palliative care workforce. *Public Health Nursing*. 2021;**38**(3):459-463
- [11] Białek K, Sadowski M. Level of stress and strategies used to cope with stress by physicians working in intensive care units. *Anaesthesiology Intensive Therapy*. 2019;**51**(5):361-369
- [12] Elbeddini A, Prabakaran T, Almasalkhi S, Tran C. Pharmacists and COVID-19. *Journal of Pharmaceutical Policy and Practice*. 2020;**13**:36