

Percentage of disease incidence and different experiences in the treatment of Covid - 19 infection in the student population

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Introduction

Respiratory, and now we know that it is also a systemic disease that damages the blood vessels of internal organs, caused by the corona virus (COVID-19), has been identified as the cause of the pandemic that began in 2019. Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) is a member of the coronavirus family and is the cause of this serious disease (Adhikari et al., 2020). The COVID-19 virus is spread through saliva (droplets) by coughing and sneezing about 6 feet away from healthy people or by touching areas where the virus has remained, such as when holding hands, phone, etc. Liu et al., Based on the results of their study, concluded that angiotensin converting enzyme II (ACE2) is responsible as a receptor for the COVID-19 virus in humans (Liu et al., 2011). The disease ranges from mild and common colds to severe respiratory illnesses and acute respiratory syndrome. In the absence of effective and tested drugs and vaccines for eradication of the disease, in response to the resulting pandemic, public health recommendations were given in order to prevent the spread of infection with this new corona virus (WHO, 2020). Some disease factors have been clearly identified: diabetes, cardiovascular disease, hypertension, cancer and old age, as well as being overweight. The main pharmacotherapeutic protocols focus on three approaches to treatment depending on the clinical picture that has developed: antiviral agents - to prevent virus replication; immunomodulatory drugs - to alleviate the overemphasized immune response of the infected organism, which is very common in severe forms of the disease; drugs that prevent hypercoagulation leading to thrombotic complications. The approach to treatment itself is different in home and hospital conditions,

depending on the severity of the clinical picture. Antibiotics were an integral part of treatment in case of need to prevent secondary bacterial infection due to a general decline in immunity. Supplementation with vitamin D and micronutrients (zinc, selenium, magnesium, vitamin C, probiotics) has proven to be an important part of disease therapy and recovery, and not just prevention before the disease develops.

Material and methods

Voluntary, anonymous, demographic-epidemiological cross-sectional study performed on respondents, students, average age 24 years. The survey was conducted from 01.04. 2022. Until 08.04.2022. A purposefully formed three-part questionnaire was used. The personal data of the participants were omitted in order to maintain and protect the confidentiality of the obtained data. Upon completion, the final database was downloaded as a Microsoft Excel list. The first part of the questionnaire was intended to collect the necessary socio-demographic data on the surveyed population; The questions in the second part were related to the disease caused by the COVID-19 virus, method, length and place of treatment. Data are presented as a percentage in relation to the number of participants and in relation to the number of patients.

Results and Discussion

The study included a heterogeneous group of a total of 194 students, mostly female (71%). The largest part of the surveyed population were students aged 21-25 years (93.3%), while the rest belonged to the age group 26-30 years. Of that number of respondents, 109, ie. 56.18% of respondents had COVID - 19 infection. Out of the total number of respondents, only 12.37% stated that they had

been vaccinated against this disease, while almost a third of respondents did not answer this question (33%). Out of 109 patients in 67.88% of cases, the infection was confirmed by a positive PCR test; of those 109 respondents, 84.4% were treated at home. The clinical picture of the majority of patients (71%) required the use of antibiotics to prevent secondary bacterial infection. Hemomycin (50.45%) was used in the largest number of cases. The antiviral agent recommended by the WHO in the early stages of the pandemic was Remdesivir, which inhibits virus replication at the level of RNA synthesis. At the beginning of 2021, the drug Favipiravir became effective in outpatient treatment in the Republic of Serbia, effective in treatment if used no later than 3 to 5 days after the onset of symptoms. This drug was approved in Japan in 2014 for the treatment of influenza, side effects and contraindications are known, it is not used in pregnant and breastfeeding women (Furuta et al., 2017). This drug was used in 19.26% of patients who became ill. In addition to antivirals, dexamethasone, a corticosteroid, has been used very successfully in the treatment of severe clinical picture in patients on oxygen therapy, and has given good results in the form of calming the immune response. In SARS-Cov-2 virus infection, there is an increased, excessive release of pro-inflammatory cytokines, which damages tissue and can lead to damage to many organs, especially the lungs (Quek et al., 2021). Hypercoagulation as a side effect of excessive inflammatory cascade is the main factor that increases mortality in patients with a more serious clinical picture of COVID-19. There is a strong association between the immune response and the coagulation cascade. The use of Aspirin 100 in our study is in line with these results, where out of the total number of patients in therapy and after treatment for a month, Aspirin 100 was used in 21.10% of cases. Numerous studies and their results indicate that vitamin D supplementation is associated with improved and more favorable treatment outcomes for COVID-19 infection - especially if used after diagnosis of infection. There is an association between serum provitamin D levels and the number of infected patients (Moscatelli et al., 2017). In our study, 16.49% of patients used vitamin D as a supplement for 3 months after recovery. Viral infection also leads to depletion of the immune system accompanied by a lack of micronutrients and their reserves (Vitamin A, B6, B12, C, D, E and folate). Zinc supplementation may lead to the development of fewer respiratory infections, and thus COVID-19. Micronutrients including zinc, B vitamins, vitamin C and magnesium were used by 28.86% of respondents.

Conclusion

In addition to the course of treatment that requires the use of antivirals and immunomodulators, as well as antibiotics depending on the clinical picture of the disease, during recovery from COVID-19, it is necessary to recover the immune system - due to deficiency of many important substances for its maintenance (vitamins, minerals, essentials). matter). At the same time, it is necessary to prevent the synthesis of substances that would lead to the formation of blood clots (anticoagulants). It is clear that the virus leads to serious damage to the immune system, even in young people, where all available means are needed for the organism to recover. In the future, it is necessary to give more precise answers to many questions related to this disease, but also to intensify efforts to increase awareness of the importance of vaccination.

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