

ORGANIZATION OF TERTIARY HEALTH CARE INSTITUTION DURING THE COVID-19 PANDEMIC

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Summary: *The survival and organization of the tertiary health care institutions, which integrates a range of specialist and subspecialist activities, becomes a real challenge during the COVID 19 pandemic due to the weakening economic power of the state and the potential loss of standard sources of funding under voluntary and supplementary health insurance.*

Aim of the research: *To show the most optimal modality of providing services of a tertiary health care institution, which, in addition to tertiary and secondary B health care, expands its activity to secondary A health care, with the evaluation of parameters such as number of hospital days based on discharged patients and daily records, evaluations of groups of operations and number of diagnostic procedures* **Results:** *The tertiary level health institution in the period of the COVID 19 pandemic provides tertiary and secondary B health care, with the expansion of services to the secondary A health care, to optimize services and relieve the burden of institutions that provide this type of service. The number of services provided at the tertiary and secondary health care, in terms of the number of b.o. days, operations, examinations, and diagnostic procedures, shows a decrease in comparison with the previous two years, but also continuity despite working conditions in crisis.*

Keywords: *health care institution, tertiary level health, work organization, pandemic, COVID 19*

1. Introduction

The organization of the work of the tertiary level health institution represents a kind of challenge during the COVID 19 pandemic, due to the continuous pressure on all component health organizational structures with a larger influx of patients, which creates the need for adequate and efficient organization and formation of the structure (CCRI). Mobilization of the capacity of health care institutions in terms of reorganization of work, mobilization of all available human and material resources in the service of adequate response to the increased influx of patients, their triage, hospitalization and treatment is mandatory. The organization of the work of a health institution during a pandemic should be based on the provision of health services at all levels of protection, which is an organizational challenge in extraordinary circumstances. The cooperation of health care institutions with the competent crisis headquarters is of crucial importance for defining guidelines and algorithms for the organization of work, treatment of infected patients and elective cases. Tertiary health care deals with the provision of medical care within the framework of specialist and subspecialist activities, ie sophisticated health care, which, in order to survive on the market, must continuously invest in staff, equipment, education, following world trends. Given the funding that is directly threatened by the disturbances of the world economy and the fall in GDP during the COVID 19 pandemic, cooperation and state assistance is essential. The organization of the work of a tertiary level health institution in crisis situations is based on the following settings:

- a. reorganization of staff and capacity
- b. formation of COVID 19 departments at clinics
- c. expanding services to secondary A level to provide continuous health care
- d. improved and effective diagnosis and treatment of infected patients

- e. continuity of treatment of elective cases
- f. uninterrupted provision of services for all emergencies, traumatized patients, oncology and hemodialysis patients

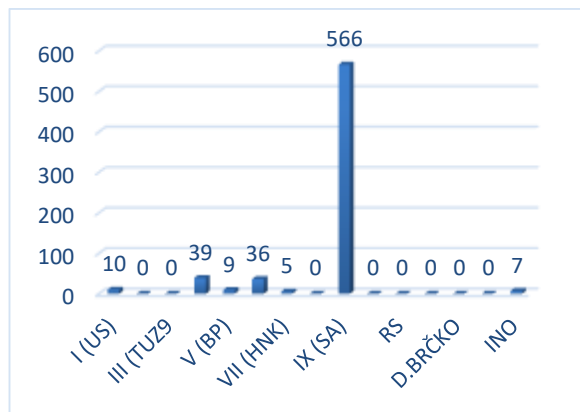
1. Principles of operation of a tertiary type health institution during the COVID pandemic 19

Given the fact that in specific conditions such as the global pandemic, tertiary level health care institutions provide care services by providing additional staff and space capacity, the concept of pandemic management must be reduced to, on the one hand, providing a level of service appropriate to the institution's competencies. on the other, by repurposing the function of hospital capacities depending on current needs, provided that the protection of employees must be timely and continuous (3). With the appearance of a pandemic, all clinics are forced to reorganize their work according to the instructions of the competent crisis headquarters, which is necessary in crisis situations that affect every segment of society (4). The survival of health fatigue will be stable and sustainable, otherwise, the effects would be devastating for the community, and it is not necessary to emphasize the social dimension and importance. The availability and quality of health care must be provided to all users, which is important for the stability of society and the psychophysical health of the population. Crisis conditions, such as the COVID 19 pandemic, are affecting the functioning of the health system in all its segments, a large and unexpected influx of infected requires prompt reorganization at all levels (2).

1. Results

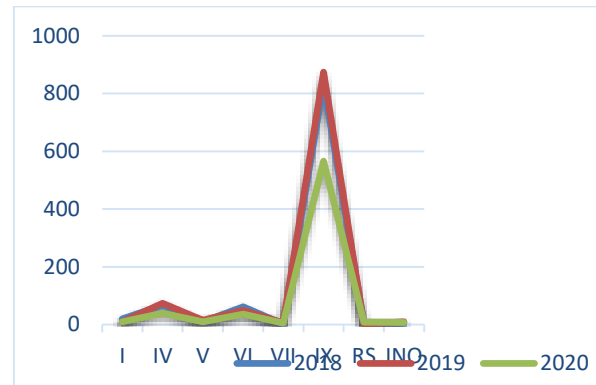
The range of services of the Clinic for Reconstructive and Plastic Surgery within the Clinical Center of the University of Sarajevo during the pandemic COVID 19 was presented. Covered period 01.01.-

31.12.2020. year, with the official start of the pandemic in March 2020. The results correlated with the period of two and a half months of work in changed conditions, ie the conditions of treatment of emergencies and malignancies, the so-called "lockdown" period (March-May 2020). In that period, the total number of treated patients was 680. By evaluating the distribution from individual cantons (Chart 1), the highest representation of patients from Sarajevo Canton (566 cases) and Zenica-Doboj Canton (39 cases) was determined. The complete absence of patients from Posavina (II), Tuzla (III), West Herzegovina (VIII) and Canton 10 is evident, which is also present in the evaluation of other assessed parameters. Results are expected given the reduced population movements, as well as the availability of nearby centers that provide tertiary level services.



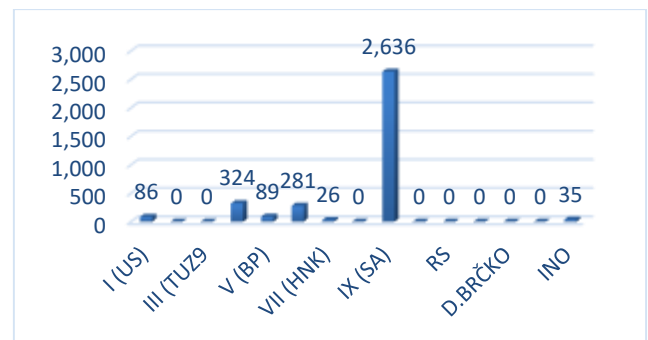
Graph 1. Distribution of patients according to the corresponding cantons

The number of patients during the COVID19 pandemic in 2020 shows a decrease compared to 2019 and 2018. In all three evaluated periods, the largest number of patients was from Sarajevo Canton, 566 out of the total number of 680 patients. During 2019, Sarajevo Canton was represented in 874 cases out of 1039 hospitalized and treated patients, ie in 855 cases out of 1006 hospitalized in 2018 (Chart 2).



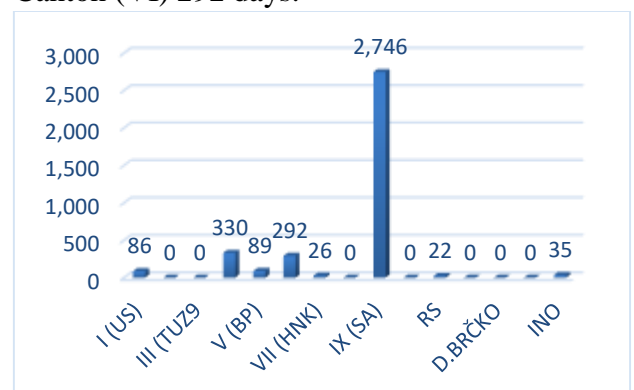
Graph 2. Number of patients presented according to estimated time periods

The number of sick days (b.o. days) has a variable distribution by cantons (Chart 3), Sarajevo Canton (X) with 2636 b.o. days, then Zenica-Doboj Canton with 324 b.o. days, and Central Bosnia Canton (VI) with 281 days.



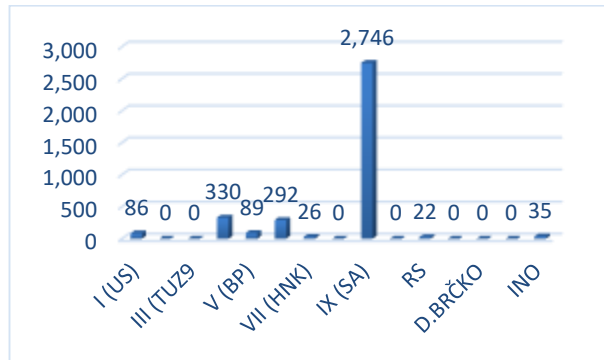
Graph 3. Cantonal distribution b.o.dana

The number of points according to daily records is also variable according to cantonal distribution (Chart 4), the distribution of points based on daily records is identical according to canton representation as in Graph 2, Sarajevo Canton (X) 2746, Zenica-Doboj Canton (IV) 330, and Central Bosnia Canton (VI) 292 days.



Graph 4. Number of days according to daily records

Realized outpatient examinations, ie first and control specialist examinations, presented in Graph 5, with predominant representation of the three most frequent cantons, Sarajevo Canton (X) 4698, Zenica-Doboj Canton (IV) 188, and Central Bosnia Canton (VI) 181.



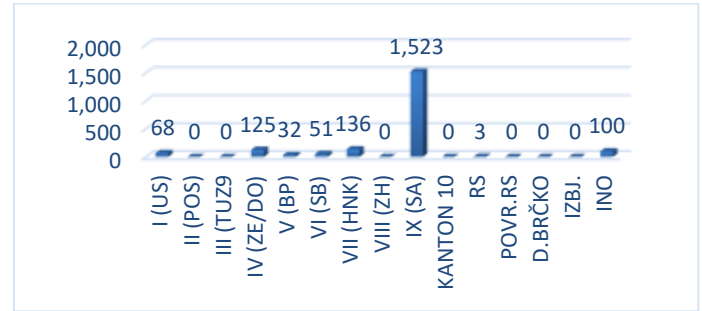
Graph 5. Outpatient examinations

Within the outpatient examinations, a different range of outpatient services was provided in terms of minor surgical interventions and standard postoperative interventions (Chart 6). The largest number of outpatient services realized in the Sarajevo Canton (X), 7017.



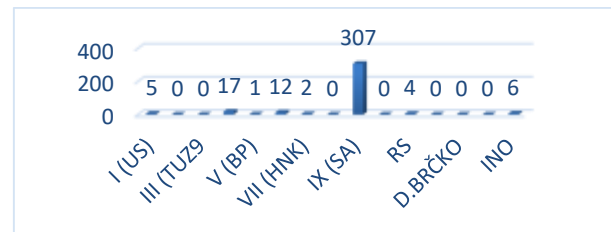
Graph 6. Outpatient services provided

Laboratory findings services presented in Graph 7. The largest number of analyzes performed in Sarajevo Canton (X), 1523, then in Herzegovina-Neretva Canton, 136. Other cantons with significantly smaller distribution, given the reduced admission due to the pandemic.



Graph 7. Laboratory analysis services

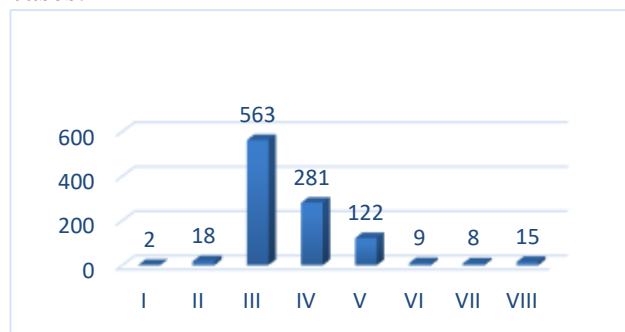
The number of conciliatory examinations correlated with the number of hospitalized patients, with the predominant representation of Sarajevo Canton (X), 307 examinations. Other cantons with lower participation, Zenica-Doboj Canton (IV) 17, and Central Bosnia Canton (VI) 12. Representation of the remaining two participating cantons is negligible (17 and 12 patients, respectively), as well as hospitalized patients from abroad, 6 cases.



Graph 8. Consular reviews of different specialties

During the pandemic in 2020, surgical services of different levels of complexity were provided, the results correlated with the complexity of the case, as well as the influx of patients from our and other cantons, the largest number of surgical procedures was provided from group III (563 patients) and group IV (281 patients). . Group VIII, which includes the most complex surgical procedures in the field of microsurgery and treatment of burn trauma, represented in 15

cases.



Graph 9. Distribution of provided services according to the complexity of operations

2. Conclusion

During the pandemic period, the Clinic for Reconstructive and Plastic Surgery of the Clinical Center of the University of Sarajevo based its work on the following principles:

- Continuous provision of tertiary, secondary A and B level health services
- During the so-called "lockdown" period, the treatment of all elective cases was suspended
- Provided continuous service to all acute cases and malignancies
- Provided continuous outpatient work with specialist consultative examinations and services
- Distribution of operations according to complexity depending on the influx of patients from Sarajevo and other cantons, which is correlated with the movement of the pandemic
- Hospital capacities of the clinic partly made available to suspected and confirmed COVID 19 positive patients
- The activity of the clinic in the evaluated period was based on the continuous provision of services, with a decrease in the number of patients compared to the compared 2018 and 2019, which is expected given the emergency
- There is no decline in the quality of services as a result of high competencies and excellence of surgical staff

Adequate response of tertiary level health institutions in the COVID 19 pandemic is reflected in the efficient mobilization of human and spatial capacities, as well as prevention of intrahospital transmission of infection, with the aim of optimizing and

continuing health care to non-infected patients and patients with COVID 19 infection. priority algorithms (7). The health problems of the population do not show a tendency to decline even in emergencies such as a global pandemic, with other health services must be available to the population through coordination and engagement of all levels of health care, which is achieved by good organization and prediction of pandemic (5). Demand for specific and specific health services tends to grow during a pandemic and it is very important to provide or relocate health facilities that can respond to the challenge, as for elective cases, which are not urgent but are an indication for treatment (6). The COVID 19 pandemic is a kind of health and economic challenge, because it mobilizes all segments of society in order to overcome potentially long-term consequences, as well as to find ways to solve them (8). Cooperation of all health services must be of high quality and continuous in order to overcome all the challenges of the pandemic, which is a unique challenge for the state and health.

3. References

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