

## **PRELIMINARY REPORT ON THE IMPACT OF THE COVID-19 PANDEMIC ON MEDICAL SERVICES PROVIDED IN THE ORTHOPEDICS AND TRAUMATOLOGY DEPARTMENTS**

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### **Abstract**

*The need for an analysis about the sustainability of measures taken in the COVID-19 pandemic and the impact of these measures on patients with osteoarticular, muscle and connective tissue pathology is relevant to implement a strategic plan for prevention and control of the deterioration of health of patients with orthopedic diseases. Thus, a retrospective study was performed analyzing statistical data on patients admitted to the Orthopedics departments of the County Clinical Emergency Hospital Oradea between 01.01.2019-31.09.2020, including a total of 4731 patients. From the statistical data obtained it was found that the number of hospitalizations in the orthopedics and traumatology departments decreased dramatically since April 2020, when there were 63% fewer hospitalizations than in the similar period of the previous year, the number of chronic hospitalizations being reduced to almost 0, the number of acute cases being reduced by 52%. The monthly assessment of the average length of hospital stay in the orthopedic wards revealed significant fluctuations due to the measures imposed by the authorities and the decrease in the number of available beds.*

**Key words:** pandemic, COVID-19, hospitalization, orthopedics, traumatology

### **INTRODUCTION**

The COVID-19 pandemic has numerous implications in the management of patients with osteoarticular, muscle and connective tissue disorders, which derive from both the numerous problems associated with ensuring the treatment of urgent or chronic cases in the context of SARS-CoV-2 infection.

Surgery involves an integrated activity, which starts in the department where the patient is admitted, with the patient's preparation for the surgery, which is continued in the operating suite (preoperative, operative and postoperative) and is completed in the admitted department (patient monitoring and specific therapeutic indications). (Vladu A. et al.,2020) Thus, patients who require emergency surgical treatment and are infected with the SARS-CoV-2 virus are a real challenge for the medical staff. Chronic cases of infection with this virus can be delayed, but on return they must have an optimal biological status for surgery.

Given the fact that the County Clinical Emergency Hospital Oradea is part of the category of support hospitals for patients tested positive or suspected with the SARS-CoV-2 virus, a well-developed strategic planning is needed to cope with the pressure exerted by the pandemic on the system. local and regional health.

Strategic planning is a systematized and organized process by which an organization plans its future. The purpose of strategic planning is to adapt the organization to the ever-changing external environment, and to understand the current and future possibilities related to these changes. Managers do this by identifying economic, social and political trends in the external environment that will have an impact on the organization and evaluating the internal possibilities of the organization. A well-developed and implemented strategic plan makes an organization proactive and not reactive to a constantly changing environment. ( Vâlceanu D., Școala Națională de Sănătate Publică și Management, 2006)

The activity of planning and the elaboration of health policies are intertwined and interconditioned. Thus, although policy-making focuses on value judgments, it cannot appear or be implemented in a void, but only on the basis of the existing situation and estimates for the future, which are essential features of the planning process. (Vlădescu Cristian et al., 2004)

The current situation created by the pandemic has led to the implementation of an effective strategic plan, which included the reorganization of hospitals in Bihor County, the Orthopedics I and Orthopedics II departments of County Clinical Emergency Hospital Oradea(CCEHO/SCJUO) being merged into the space where Orthopedics I operated, hosting a number of 33 beds.

Having implemented an internal managerial control system on the Orthopedics and Traumatology departments of CCEHO/SCJUO according to the published studies (Daina L. et al., 2018), the management has the possibility to consolidate the managerial decisions adopted with reference to the implemented strategic plan.

The need for analysis on the sustainability of these structural changes and the impact of the measures that stopped admissions in hospitals for surgery and other treatments and investigations hospital, which is not urgent and can be reprogrammed on period, is supported given the increased pandemic length, which can lead to long-term limitation of chronic patients' access to certain specialized medical services and thus to accelerated deterioration of their health.

## MATERIAL AND METHOD

A retrospective study was performed analyzing the statistical data regarding the patients hospitalized in the Orthopedics departments of the Oradea County Emergency Clinical Hospital during 01.01.2019-31.09.2020. A total of 4731 patients were included in the study period, without exclusion criteria.

The evaluation revealed as follows:

- a) Situation of the number of available beds
- b) The situation of the number of hospitalized patients
- c) Situation of the number of patients with acute / chronic diseases
- d) The monthly evolution of the average duration of hospitalization

## RESULTS AND DISCUSSION

### The situation of the number of available beds in the studied period

Judicious management of the available resources in the departments is imperative for efficient management. One of the most important resources available to the wards is the number of beds, on which depends the number of hospitalizations made on those wards. Figure 1 shows the situation of the number of beds available on the orthopedic departments. Following the restructuring of the departments in the Oradea County Emergency Clinical Hospital, the Orthopedics departments were merged in April 2020, so the Orthopedics Department 1 has 18 beds and 15 beds the Orthopedics Department 2, thus creating additional beds for critical patients who need intensive care.

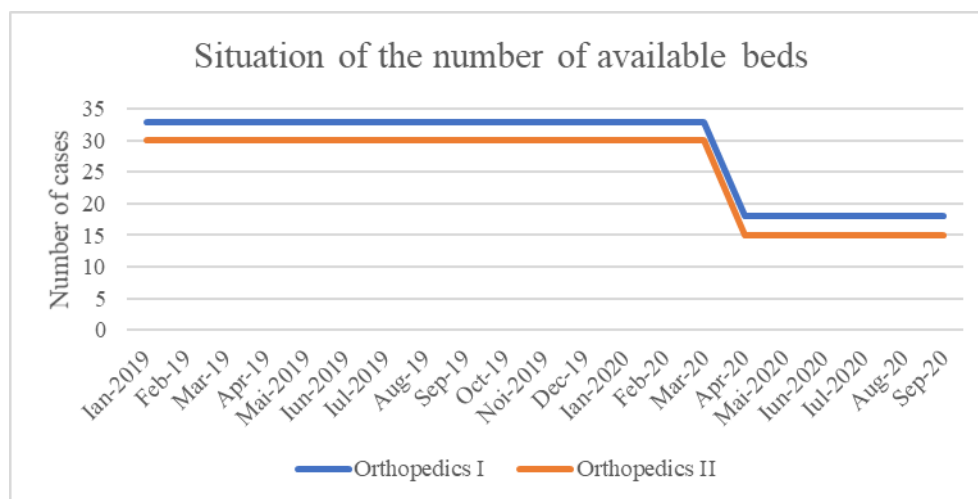


Fig. 1. Situation of the number of beds available in the orthopedic departments reported monthly

**The situation of the number of hospitalized patients**

The number of hospitalizations nationwide has decreased dramatically since April 2020, when there were 70% less hospitalizations than in the same period last year, following an increase between June and August 2020, but remains halved compared to the previous year. (Mixich V., Radu C., 2020)

Similar to data reported by countries in Figure 2 can be seen a significant decrease in the number of admissions in May April 2020 about 63% over the same period in 2019, following a rise in coming months.

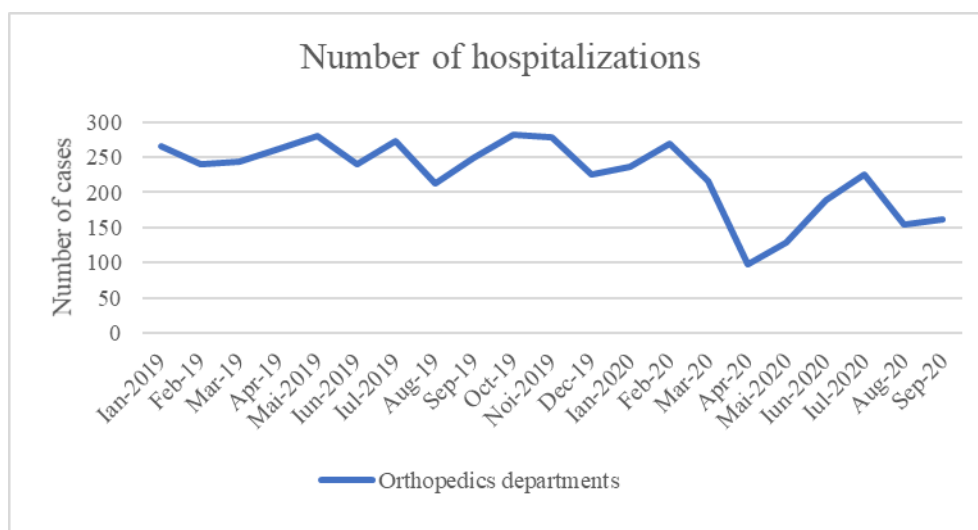


Fig. 2. The situation of the number of patients admitted to the orthopedic wards reported monthly

Based on the Order of the action commander no.74527 / 23.03.2020 issued by the Ministry of Internal Affairs, hospitalizations for surgeries and other hospital medical treatments and investigations were suspended, which are not an emergency and can be rescheduled for a period of 14 days. Thus, the number of chronic hospitalizations in April was reduced to almost 0, the number of acute cases being reduced by 52% compared to the same period in the previous year, the graphical representation in Figure 3 being relevant in this regard. In the following months, the number of hospitalizations increased, both scheduled and urgent ones until July, after which they decreased again by 32%..

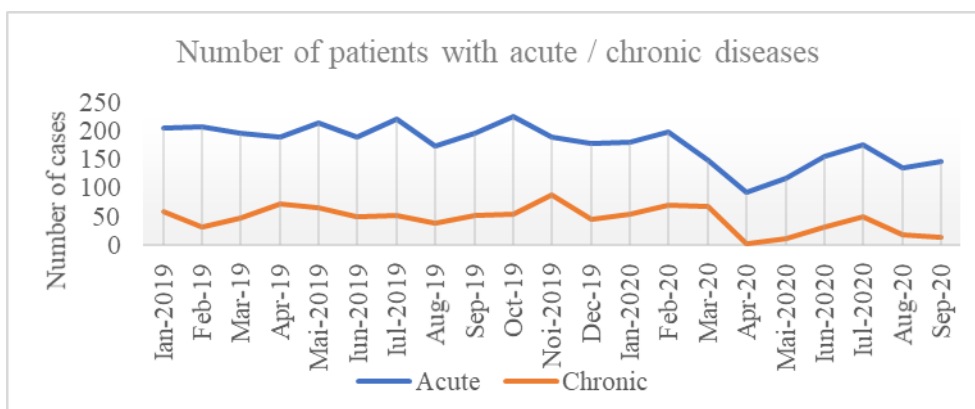


Fig. 3. Situation of the number of hospitalized patients according to the method of hospitalization in orthopedic departments reported monthly

**Analysis of the average duration of hospitalization**

The provision medical services in hospitals is granted on the basis of contracts concluded by hospitals with health insurance companies, taking into account hospital-specific indicators. The data presented above (number of beds established according to the organizational structure, number of cases discharged by continuous hospitalization) and those to be presented (average length of hospitalization) are essential quantitative indicators for assessing the financial and non-financial performance of hospitals. Thus, Figure 4 shows the monthly reporting of the average length of hospitalization in orthopedic departments, in April being a slight increase in the average length of hospitalization, by 12% compared to previous months, but similar to the same period in the previous year, following to decrease progressively until July, with about 35% compared to the same period in the previous year. In August of this year, the average length of hospitalization increased by 1 day compared to the previous month, and decreased again in September.

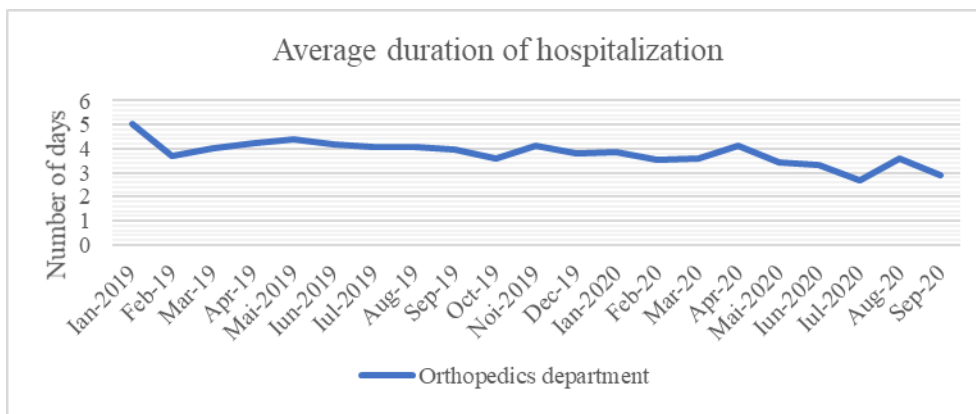


Fig. 4. Average length of hospital stay in orthopedic departments reported monthly  
**CONCLUSIONS**

1. The impact of the COVID-19 pandemic on the number of hospitalizations in the orthopedics and traumatology departments was a negative one, decreasing dramatically starting with April 2020, when 63% fewer hospitalizations were registered than in the similar period of the previous year.

2. The measures taken by the authorities to limit the spread of SARS-CoV-2 virus infection in April 2020 have resulted in the limitation of patients' access to medical services in, the number of chronic hospitalizations being reduced to almost 0 and the number of acute cases being reduced by 52 %.

3. The monthly assessment of the average length of hospital stay in the orthopedic wards revealed significant fluctuations due to the measures imposed by the authorities and the decrease in the number of available beds.

4. Well-developed strategic planning at local and regional level is needed to facilitate access for patients with osteoarticular, muscle and connective tissue diseases to quality medical services.

**Acknowledgments**

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