

EXAMINING THE IMPACT OF THE COVID-19 PANDEMIC ON CHRONIC PAIN TREATMENT IN CROATIA

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The purpose of this study was to examine the impact of the COVID-19 pandemic on outpatient treatment of pain in general and specialized hospitals and clinics in Croatia. A survey was conducted among pain medicine specialists and members of the Croatian Association for the Treatment of Pain (CATP). The survey was designed using Google Forms and it consisted of 17 questions divided into five sets. CATP members completed the survey anonymously and their answers were analyzed. The survey was open for one month (January to February 2021). A total of 41 members completed the survey. The results have shown that 90.2% of the respondents agree that the COVID-19 pandemic has changed chronic pain treatment. An increase in pain intensity was reported by 58.5% of patients. A decrease in the use of opioids (45%) and adjuvant analgesics (35%) was detected. The majority of the respondents reported a decline in the use of interventional pain management procedures (92%). CATP members switched to electronic and telemedicine technologies to communicate with their patients, considering them a good alternative during the pandemic. A lack of national guidelines on chronic pain treatment during the pandemic was reported by 78% of the respondents. The study concluded that the COVID-19 pandemic has decreased the number of outpatient chronic pain examinations considerably. The pandemic has affected therapeutic procedures, reduced personal contact between physicians and patients, and decreased the overall quality of treatment.

Key words: COVID-19, chronic pain, telemedicine, opioids, corticosteroids

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INTRODUCTION

Modern pain management, as a recent academic and clinical discipline, focuses particularly on chronic pain treatment. Untreated severe chronic pain has devastating physical, social, emotional, economic and spiritual consequences (1,2). In over 20,000 patients diagnosed with some form of cancer in Croatia every year (3), untreated pain has been proven to have a negative impact on the immune system and overall treatment outcomes (4). According to the relevant literature, the prevalence of chronic pain in general population is approximately 20% (5), while musculoskeletal pain, particularly lower back pain, accounts for over 10% of

reasons for visiting a family physician (6). Due to its high prevalence, significant social impact and strong interference with daily activities, lower back pain has become a major health and socioeconomic priority (7). Some studies have shown that in every third patient, chronic pain is accompanied by anxiety or depression (8,9). General recommendations of hospital boards in Croatia regarding patient treatment during the COVID-19 pandemic include the following: significant reduction in the number of non-urgent outpatient examinations, suspension of elective diagnostic and treatment programs, staff reorganization and its appointment to COVID departments and intensive care units, and work under special social distancing

measures and strict personal protection measures for healthcare workers and patients, including testing high-risk patients for COVID and introduction of virtual contact with patients. The prevalence of chronic pain increases significantly in old age, where 88% of patients suffer from severe comorbidities (cardiovascular and respiratory diseases, diabetes), as well as in case of disability (10). In the time of a pandemic, during treatment, such patients are exposed to a significantly higher risk of infection, worsening comorbidities, and severe coronavirus disease with a fatal outcome (11). Evaluation of a patient's condition, in particular whole-team evaluation, has been considerably disrupted (2,5). Another particular problem lies in the long-term opioid and steroid therapy, which modify a patient's immune response, while the administration of non-steroidal antirheumatic drugs can mask COVID-19 symptoms, such as increased body temperature, myalgia and joint pain (1,2,5). In case of the SARS-CoV-2 infection, the application of opioid patches may cause respiratory depression (5). In the time of remote communication with patients, dosing and maintaining treatment continuity, both in opioid and adjuvant therapy, is particularly challenging (1,5).

The purpose of this study was to examine the impact of the COVID-19 pandemic on outpatient treatment of chronic pain in general and specialized hospitals and clinics in Croatia. The objectives of the study were to determine the quantitative and qualitative impact of COVID-19 on the work of outpatient clinics, patients, choice of treatment, methods of communication with the patient, and the need for urgent development of recommendations necessary for clinical practice.

RESEARCH METHOD

The study was carried out using a survey consisting of 17 questions divided into five sets. The survey was designed using Google Forms. The first set of questions concerned the impact of the pandemic on the work in outpatient pain clinics. The second set focused on the impact of the pandemic on patients. The third set addressed the impact of the pandemic on the choice of treatment. The fourth set examined the impact of the pandemic on the method of communication with patients. Finally, the fifth set concerned the need for developing recommendations for clinical practice during a pandemic. The survey could be accessed using a link to Google Forms. Certain questions were multiple choice questions, while other required the respondents to state all information pertaining to their practices. The survey was drawn up and approved by the Croatian Association for the Treatment of Pain (CATP) and sent to pain medicine specialists in all registered

outpatient pain treatment clinics in Croatia. The survey was sent to all pain medicine specialists with an active e-mail address registered with the CATP. The survey was conducted over one month (January-February 2021). After the survey had been conducted, all responses were analyzed. The responses have been expressed in the form of percentages of the total number of respondents based on all the answers given in the survey. The survey was voluntary and anonymous. A letter accompanying the survey indicated the purpose of the survey, data collection method and the potential use of data. Data confidentiality was guaranteed. This research was conducted in accordance with the provisions of the 1967 Declaration of Helsinki and its later versions.

RESULTS

The survey was sent to 76 e-mail addresses. A total of 41 (54%) physicians responded to the survey. Survey results are presented in Table 1.

Regardless of the institution type, 90.2% of physicians responded that the COVID-19 pandemic had affected the work of outpatient pain clinics. Based on their answers, it can be seen that the number of elective patients examined at clinics has decreased significantly (by two thirds). Total number of all examinations has decreased by approximately 50%. The main cause behind the reduced volume of work at outpatient clinics was the reassignment of healthcare workers (89.7%). Over 50% of new elective patients have been put on waiting lists. An increase in pain intensity was reported by 58.5% of patients, most frequently caused by the reduced availability of complementary treatment methods, physical therapy, or an increased level of anxiety or stress due to the COVID-19 pandemic. Reduced availability of opioids (45%) and adjuvant analgesics (35%) to patients was detected. A total of 57.8% of the surveyed physicians have not changed their usual practice of administering steroids in interventional procedures, while 23.7% of them substituted Depo-Medrol by dexamethasone. The majority of the physicians stated that the volume of interventional pain management procedures had decreased significantly. Electronic and telemedicine communication was used in 61% of consultations, mostly by e-mail and voice call, although the majority of the physicians consider them good alternatives during the pandemic. A total of 78% of the surveyed physicians believe that the development of national guidelines on chronic pain treatment during a pandemic is essential.

Table 1.
 Survey results

Impact of the COVID-19 pandemic on the work in outpatient pain clinics (n=41)*						
1. In what kind of institution does your outpatient clinic operate?	General hospital – 51.2%	Clinic – 46.4%		Specialized hospital – 2.4%		
2. Has the COVID-19 pandemic affected the work of your outpatient pain clinic?	Yes – 90.2%			No – 9.8%		
3. Have you reduced the number of examinations of outpatients (elective patients) at your institution during the COVID-19 pandemic?	Yes – 75.6%			No – 24.4%		
4. Compared to the time before the COVID-19 pandemic, what is the percentage of patients you have examined during the COVID-19 pandemic?	Under 25% – (24.4%)	26-50% – (26.8%)	51-75% – (31.7%)	76-100% – (17.1%)		
5. Why have you reduced the number of examinations? (n=39)**	Fear of spreading the infection – 2.6%	Due to reorganization of work at your institution – 89.7%	Due to recommendations of the national crisis headquarters – 12.8%	Due to the patient's wish not to undergo nonpharmacological treatment – 2.6%	We are still trying to maintain the same level of work – 2.6%	
6. Are you also examining new patients, do you put them on the waiting list or both?	No new patients – 2.4%		Some new patients – 24.4%		Both – 73.2%	
7. Have your patients reported increased pain?	Yes – 58.5%			No – 41.5%		
8. If yes, what were the main causes? (n=28)**	Reduced access to complementary treatment methods – 60.7%	Inability to undergo an outpatient examination – 28.6%	Reduced ability to undergo physical therapy – 42.9%	Increased stress due to the COVID-19 pandemic – 42.9%	Not reported – 3.6%	Inability to conduct interventional procedures – 3.6%
9. Has the use of medications increased? If yes, which groups of medications? (n=31)**	Adjuvant medications – 12.9%	Opioids – 32.3%	Cannabinoids – 0%	Paracetamol/ NSAIDs – 64.5%	No data available – 3.2%	No – 6.4%
10. Has the use of medications decreased? If yes, which groups of medications? (n=20)**	Adjuvant medications – 35%	Opioids – 45%	Cannabinoids – 0%	Paracetamol/ NSAIDs – 10%	Impossible to monitor in our circumstances – 15%	No – 15%
11. During the COVID-19 pandemic, what has been the percentage of reduction in interventional procedures? (n=38)**	Under 25% – (36.8%)	26-50% – (23.7%)	51-75% – (21.1%)	76-100% – (18.4%)		
12. What is your attitude towards the use of steroids for interventional procedures? (n=38)**	I completely avoid using steroids – 13.2%	I reduce steroid dosage – 5.3%	I prefer dexamethasone over Depo-Medrol – 23.7%	No changes compared to the usual practice – 57.8%		
13. How have you been giving advice and recommendations during the COVID-19 pandemic?	Face-to-face conversation, as usual – 22%		Virtually/Telemedicine – 17%		Both – 61%	
14. During the COVID-19 pandemic, what percentage of your examinations have been conducted using electronic or telemedicine technologies?	0-25% – (65.8%)	26-50% – (22%)	51-75% – (9.8%)	76-100% – (2.4%)		
15. What types of electronic and telemedicine services have you been using? (n=35)**	E-mail – 51.4%	WhatsApp and similar media – 20%	Video call – 11.4%	Voice call – 88.6%		
16. In your opinion, can telemedicine consultations be an equally effective alternative compared to the usual methods of examining and communicating with the patient?	Yes, it is a good alternative during the pandemic – 46.3%	No, usual examination methods are the best, regardless of the pandemic – 41.5%	Not sure – 9.8%		It is neither better nor worse – 2.4%	
17. Do you think there is a lack of guidelines and recommendations for pain treatment during the COVID-19 pandemic?	Yes – 78%			No – 22%		

*Total number of respondents was 41.

**Some respondents did not answer all the questions (empty fields).

DISCUSSION

The COVID-19 pandemic has placed a lot of pressure on the overall healthcare system and significantly affected clinical practice in terms of chronic pain treatment in Croatia. Nowadays, it is a well-known fact that non-treatment of chronic pain represents violation of the basic human rights (12). This study has confirmed that everyday clinical practice of pain management at outpatient pain clinics in all hospital systems has been significantly disrupted. The results of this study, like the majority of data in the relevant literature, suggest that examinations of elective patients, diagnostic and therapeutic procedures and regular consultations have been cancelled for over 70% of patients. Considering that this concerns mostly older patients, suffering from a series of severe comorbidities, emotional and cognitive disorders and depression, such clinical practice has significantly reduced the patient quality of life (5,13,14). Studies have shown that untreated chronic pain causes deterioration of the clinical presentation of depression in 50% of patients, as well as that suicidal thoughts occur in 35% of patients (14). Puntillo *et al.* have developed recommendations for conducting biopsychosocial pain treatment, and assessment and treatment of emotional distress correlated with pain and/or the pandemic (5). In this study, an increase in pain intensity was reported by 50% of the patients. The patients stated that the main reason behind increased pain was the unavailability of complementary treatment methods and physical therapy. Due to the required social distancing, these treatment procedures have mostly been suspended. The American College of Surgeons has classified the said treatment procedures as elective, urgent and semi-urgent, recommending thorough evaluation of every patient before making a decision on ending therapy (15). Detailed recommendations on the implementation of protective measures for personnel and equipment have also been made (7,16). The most significant reason behind the reduced volume of work at outpatient pain clinics in Croatia was the lack of medical staff, in particular anesthesiologists, due to their reassignment to COVID departments. This fact suggests that there is a serious shortage of medical staff educated to treat chronic pain. The results of this study suggest that the availability of medications, especially opioids, has been reduced. Due to isolation and a reduced volume of regular examinations and consultations, the adequacy of prescribed pharmacotherapy is questionable and harder to control. Opioids are drugs with an immunosuppressive activity – with morphine and fentanyl having a significantly higher activity than buprenorphine (1,2). Patients undergoing chronic opioid therapy contract secondary infections more frequently, and the possibility of contracting COVID-19 is increased as well (2). The unavailability of opioid therapy for

patients receiving long-term opioid therapy may cause withdrawal symptoms (16). On the other hand, long-acting opioids may cause respiratory depression symptoms in patients with respiratory comorbidities (1). In the available literature, there are no recommendations for tapering opioids during a pandemic. However, administration of opioids with a lower immunosuppressive activity, such as buprenorphine, is advised (1). Opioid rotation is not advised while personal contact with patients is reduced (2). In this study, over 50% of the physicians have not changed their usual clinical practice of administering steroids in interventional procedures. Administration of steroids may lead to secondary adrenal insufficiency with an impaired immune response, myopathy and osteoporosis, rendering these medications potentially dangerous during the COVID-19 pandemic (2,17). Studies on epidural administration of steroids have proved that immunosuppression is shorter when dexamethasone and betamethasone are administered in comparison with Depo-Medrol (2). The American Academy of Pain Medicine recommends careful administration of the minimum effective dose of steroids for interventional procedures and substitution of Depo-Medrol by steroids with a lower immunosuppressive potential (16). Although there has been some controversy concerning the administration of non-steroidal anti-inflammatory drugs (NSAIDs), the European Medicines Agency and the US Food and Drug Administration have found no association between the administration of NSAIDs and COVID-19 symptoms. It is recommended that such therapy continues (18,19). The same recommendations also apply to the administration of low doses of aspirin in the prevention of platelet aggregation (20). During the pandemic, new effective pain treatment options, such as remote treatment and telemedicine, have become an important tool for maintaining outpatient clinical practice. Early studies conducted in China and some other authors (1,2,21) have confirmed that telemedicine is a good, efficient and cost-effective alternative, indicating a high level of patient satisfaction and acceptance of that method.

Telemedicine is strongly recommended (1,2,5,14,16) as a method of maintaining treatment continuity, providing safe and efficient services, determining the level of urgency of outpatient examinations, and evaluating patient condition and defining treatment plan, especially when prescribing opioids and steroidal medications.

Furthermore, telemedicine allows for communication and coordination among various specialists involved in patient treatment (5). The limited application of telemedicine on patients in this study was a result of the limited availability of the technology required to establish visual contact, accompanied by the lack of technical skills needed for that type of communica-

tion. Although almost 50% of the surveyed physicians consider telemedicine a good alternative to the usual outpatient contact with a patient, almost 90% of electronic contact took place in the form of voice call.

CONCLUSION

Based on the results of this study, it can be concluded that the COVID-19 pandemic has significantly reduced the number of patients treated at outpatient pain clinics. Moreover, it has also affected the pain treatment program, particularly the conduct of therapeutic procedures involving personal contact between the patient and the physician. Consequently, the quality of treatment has certainly suffered as well. The study shows that the approach to patient evaluation is inconsistent in terms of the need for personal contact or remote contact and prescription of opioids and steroidal medications. Based on those facts, it is apparent that national guidelines on chronic pain treatment during a pandemic must be developed as soon as possible.

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S A Ž E T A K

ISTRAŽIVANJE UTJECAJA PANDEMIJE COVID-19 NA LIJEČENJE KRONIČNE BOLI U HRVATSKOJ

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Svrha ovog rada bila je istražiti učinak pandemije COVID-19 na liječenje kronične boli u ambulantama za liječenje boli općih i specijalnih bolnica te kliničkih ustanova u Hrvatskoj. Provedena je anketa među specijalistima za bol i članovima Hrvatskoga društva za liječenje boli (HDLB). Anketni upitnik je izrađen uz pomoć Google servisa Google forms, a sastoji se od 17 pitanja grupiranih u pet skupina. Članovi HDLB su anonimno ispunili upitnik te su se njihovi odgovori kasnije analizirali. Anketu je bilo moguće ispuniti u razdoblju od mjesec dana (siječanj-veljača 2021.). Na anketu je odgovorio ukupno 41 član. Rezultati su pokazali kako se 90,2 % ispitanika slaže da je pandemija COVID-19 promijenila način liječenja kronične boli. Veći intenzitet boli prijavilo je 58,5 % bolesnika. Otkriveno je smanjenje uporabe opioida (45 %) i adjuvantnih analgetika (35 %). Većina ispitanika je prijavila smanjenje interventnih postupaka za liječenje boli (92 %). Članovi HDLB su koristili elektroničke i telemedicinske načine komunikacije s pacijentima kao dobru alternativu u uvjetima pandemije. Nedostatak nacionalnih smjernica za liječenje kronične boli u uvjetima pandemije prijavilo je 78 % članova društva. Ovom studijom smo zaključili da je pandemija COVID-19 značajno smanjila broj ambulantnih pregleda pacijenata s kroničnom boli. Pandemija je imala utjecaj na terapijske postupke, smanjila osobni kontakt liječnika s pacijentom te ukupno smanjila kvalitetu liječenja.

Ključne riječi: COVID-19, kronična bol, telemedicina, opiodi, kortikosteroidi