Organization of mental healthcare in Bosnia and Herzegovina during coronavirus disease 2019 pandemic

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ABSTRACT

Background: Coronavirus disease 2019 (COVID-19), like any other pandemic, has imposed an unprecedented threat to physical and mental health to all nations, worldwide. There is no enough evidence in the literature in this area. The present study has been done to explore the organization of psychiatric services in Bosnia and Herzegovina (BH) to meet mental health needs of BH citizens during the particular restrictive measures caused by COVID-19 pandemic.

Materials and Methods: This online survey has been done for BH psychiatric institutions. Data were collected from psychiatric institutions in the mental health network of BH. A total of 38 complete responses have been received.

Results: Of 38 study participants, three were the departments of psychiatry in university clinical centers, two were psychiatric hospitals, four were psychiatric wards in general hospitals, 27 were community mental health centers, and two were institutes for alcoholism and drug addiction. During the pandemic, all services functioned on a reduced scale, adhering to measures to protect and self-protect both staff and service users. Protective equipment was provided to staff in some institutions in a timely and complete manner and in some in an untimely and incomplete manner. Consultative psychiatric examinations were mainly performed through telephone and online, where it exists as a standard patient monitoring protocol. The application of long-acting antipsychotics was continuous with adherence to restricted and protective measures. In opiate addiction replacement therapy services, substitution therapy was provided for a longer period to reduce frequent contacts between staff and patients. Individual and group psychotherapy continued in reduced number using online technologies, although this type of service was not administratively regulated. An initiative has been given to regulate and administratively recognize telepsychiatry by health insurance funds in the country. A number of psychological problems associated with restrictive measures and fear of illness have been reported by patients as well as by the professionals in mental healthcare teams. There were no COVID-19-positive patients seeking help from institutions that responded to the questionnaire. In one center, infected people with COVID-19 from abroad sought help through the phone. Only one involuntary

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hospitalization was reported. The involvement of mental health professionals in the work of crisis headquarters during the design of the COVID-19 pandemic control measures varies from satisfactory to insufficient. Education of staff, patients, and citizens was regular with direct instructions through meetings, press, and electronic media.

**Conclusions:** During the COVID-19 pandemic in BH, all psychiatric services functioned on a reduced scale, adhering to measures to protect and self-protect staff and service users. All patients who asked for help have been adequately treated in direct inpatient or outpatient mental healthcare or online, despite telepsychiatric services not being recognized in health system in BH. There were neither infected patients nor staff with COVID-19 in the psychiatric institutions who responded in this research. A large-scale, multicenter study needs to be performed to get a broader picture and to guide us for future better service planning and delivery.

**Key words:** Attitude and practice, comorbidities, coronavirus disease 2019, online survey, stress and depression

**INTRODUCTION**

Since its outbreak, in December 2019, the coronavirus disease 2019 (COVID-19) has rapidly spread into a global pandemic. It has serious consequences on both physical and mental health. On January 30, 2020, the World Health Organization (WHO) held an emergency meeting and declared the global COVID-19 outbreak as public health emergency of international concern (WHO, 2020). This pandemic presents the largest public health threat the medical profession has faced in at least a century. In responding to this crisis, we must acknowledge the unnerving reality that we must weigh the relative risks of COVID-19 infection against the mental health risks associated with infection control (Hermann, Fitelson, and Bergink, 2020). Data from Johns Hopkins University state that COVID-19 has now infected over 14.9 million people with more than 616 thousand of them dead (Johns Hopkins University, August 6, 2020).

It is obvious that the pandemic, besides leading to severe morbidity and mortality, has serious emotional, social, and economic consequences which could worsen further at a later stage. The most people became worried not only due to their fear of being infected with the virus but also due to various different stressors at the same time. The most common emotion by all was fear that makes people anxious, scared, and do things what society considers abnormal and inappropriate (Kallivayalil, 2020). Social interaction limitations, waves of job losses, and the uncertainty of the end of the COVID-19 pandemic became actual stressors all over the world, which are no less alarming than the virus itself (Ruddin, 2020). To minimize the spread of COVID-19, many states forced their citizens upon social/physical distancing and even lockdown policies, when the pandemic increased. Such policy forced people to stay at home, so they lost face-to-face contacts and traditional social interactions. All of these are additional stressors (Zhang et al., 2020). Despite there are many communication media available today, the face-to-face interaction remains irreplaceable (Ruddin, 2020). The next major concern is that the implementation of the lockdown policy forced businesses to lay off employees or lack off employees which caused the cessation of production. The world of work is being profoundly affected by the global COVID-19 pandemic (ILO, 2020). Because of job loss, individuals experienced mental problems such as stress, hopelessness, and feeling useless during the economic recession in Spain (Farre, Fasani, and Mueller, 2015).

In the beginning of COVID-19 pandemic regulations, the anxiety had led to fear for existence such as panic buying, xenophobia, and the tendency to trust every news on social media (Nicomedes and Avila, 2020). The COVID-19 epidemic has caused a parallel epidemic of emotional and behavioral problems at the individual level, while the people with mental health problems could be more substantially influenced by the emotional responses brought on by the COVID-19 epidemic, compared with the general population. Initial experiences from China (Yao, Chen, and Xu, 2020; Zhu, Chen, and Ji, 2020; Xiang et al., 2020) highlighted the risk posed by the pandemic to patients with mental disorders and the challenges faced by psychiatric services (Percudani et al., 2020; Roncero et al., 2020; Li et al., 2020; Moreno et al., 2020). Individuals with severe mental disorders are a vulnerable group of people who are marginalized and stigmatized in society, which further worsens their situation in a pandemic situation. This is also important from the aspect of the overall community care for people with mental disorders and the organization of psychiatric services to adequately respond to the needs of patients in the context of the COVID-19 pandemic. There are already alarms on how to deal with the psychiatric aspects of COVID-19 pandemic in persons with an established diagnosis of psychiatric disorders, staff, and those in lockdown (Lazzari et al., 2020).

**Short description of mental health services in Bosnia and Herzegovina**

Bosnia and Herzegovina (BH) with a millennial-rich tradition and culture is located in the western part of the Balkan Peninsula and was part of Yugoslav Federation until March 1, 1992, when BH declared its independence.
Immediately after the proclamation of independence, a war started which ended with the Dayton Agreement of November 1995. According to the Dayton Agreement, BH is comprised of two entities – the Federation of Bosnia and Herzegovina (FBH) with 10 cantons which have equal rights and responsibilities, and the Republic of Srpska (RS), – and the Brčko District (BD), which is formally part of both entities. Healthcare systems in BH before war was unique and centralized; however, after establishing new political system of the current BH, healthcare is regulated basically by the entities’ different laws of healthcare and health insurance. Each entity and BD are responsible for the financing, management, organization, and provision of healthcare. The health administration is centralized in RS, through the Ministry of Health and Social Welfare (located in Banja Luka); however, in FBH, the health administration is decentralized – each of the 10 cantonal administrations has responsibility for healthcare through its own ministries. The Central Ministry of Health of the FBH (located in Sarajevo) coordinates cantonal health administrations at a federal level. BD provides primary and secondary care to its citizens. The administrative arrangements for the management and financing of mental health services reflect this. The mental health policies and national programs for mental health were created in 1999 and adopted in 2005. A law on the protection of persons with mental disorders was adopted in 2001 and 2002 in FBH and in 2004 in RS. These laws define the rights of people with mental disorders and regulate the procedure for voluntary or involuntary admission to a psychiatric hospital (Sinanović et al., 2009). There are no private mental health institutions. Psychiatric services are available for all citizens, paid from a special national fund for healthcare, financed by mandatory health insurance. The reform of mental health services established a network of community mental health centers (CMHCs) and developed other services in the community, including a multidisciplinary approach and teamwork, as well as cooperation between sectors. The CMHCs have many different functions, including promotion of mental health, early detection of mental disorders, and provision of multidisciplinary care (Cerić et al., 2001; Kučukalić et al., 2005). Psychiatric services are provided throughout BH through the network of 74 CMHCs and family medicine services at primary care level. Secondary and tertiary mental health services are provided in three psychiatric clinics, one department of a university clinical center (UCC), two general psychiatry hospitals, two hospitals for chronic psychiatry for the treatment, rehabilitation and social care of patients who are chronically mentally ill, and neuropsychiatric wards in general hospitals in major cities (Sinanović et al., 2009) and Institute for Forensic Psychiatry and Public Institutes for Alcoholism and Addiction Disorders.

Epidemiological overview of the current situation on coronavirus disease 2019 in Bosnia and Herzegovina

In BH, the first imported cases of COVID-19 occurred on March 5, 2020, in the RS and on March 9, 2020, in the FBH (Arapović and Skočibušić, 2020). Due to the danger of a possible outbreak of COVID-19 epidemic, the Council of Ministers of BH on March 17, 2020, declared national emergency followed by the introduction of very restrictive measures on international movement, social distancing, mandatory use of personal protective equipment (PPE), and lockdown for the population under 18 and above 65 years. These restrictive measures lasted until the end of May. According to the Ministry of Civil Affairs of BH report, by the end of May, 2510 cases and 153 deaths had been registered. These data suggest an initially good control of novel coronavirus infection, despite administratively very complex organization of health care as well as government organization. Since the end of June, the number of people with COVID-19 has increased in the entire BH area as well as the number of deaths. The total number of people infected in BH, by July 30, was 11,876, while the number of deaths from COVID-19 infection was 339 (Ministry of Civil Affairs of Bosnia and Herzegovina, 2020). One of the reasons for the increase in the number of COVID-19-positive cases was mostly a result of noncompliance with the sanitary measures introduced (physical distancing and wearing masks). The increase in the number of new cases of COVID-19 is becoming a threat to overload healthcare facilities.

Global COVID-19 pandemic in BH resulted in numerous protective measures with influence on general health in majority of over three million residents. Overall impression is that all measures proposed by crisis headquarters were helpful and influenced to reduce extent of epidemic, but many people developed different mental health problems with specific psychopathology related to significant reduction of mobility, abrupt and sudden changes of daily activities, very limited direct contacts with other people including close family members or friends, and interruption of established routines and attaining certain pleasures (Pajević, Hasanović, and Račetović, 2020). However, in the current situation, after the relaxation of restrictive measures and the increase in the number of new patients with COVID-19, psychiatric services in BH may face with huge challenges of managing the number of patients with mental disorders who are suspected or confirmed COVID-19. There is some evidence in the literature in this area but not enough (Hodžić, Hasanović, and Pajević, 2020). The present study has been performed to explore the organization of psychiatric services in BH to meet the mental health needs of BH citizens during the particular restrictive measures of COVID-19 pandemic.

MATERIALS AND METHODS

This online survey has been done for BH psychiatric institutions and sent via e-mail to all responsible persons in every BH psychiatric institution. Data were collected from the psychiatric institutions in the mental health network of BH. A total of 36 complete responses have been received.
The data collection process was carried out from May 11 to June 10, 2020. The data obtained were then transcribed and categorized according to the research topic.

The questionnaire constructed for this study purpose consisted from 41 open and closed questions. It covered sociodemographic data, data on organization of psychiatric services during restricted pandemic measures, data about education of healthcare professionals and citizens about new coronavirus, data about mental and behavioral problems of patients and employees, data about cooperation with competent governmental institutions and about support with needed PPE, and data about alternative health services delivering instead of classic face. We sent the questionnaire to 69 institutions and received 38 completed responses (response rate of 55.1%).

RESULTS

Out of 38 study participants, three were the departments of psychiatry in UCCs, two were psychiatric hospitals, four were psychiatric wards in general hospitals, 27 were CMHCs, and two were institutes for alcoholism and addiction disorders. During the pandemic, all mental health services functioned on a reduced scale, adhering to measures to protect and self-protect both staff and service users.

Organization of work of the psychiatric clinics/hospitals/wards and community mental health centers since the establishment of emergency measures to prevent and control the spread of the coronavirus disease 2019

During the COVID-19 pandemic restrictive measures of the competent crisis headquarters, in the three psychiatric clinics, which are an integral part of the UCCs, the work was organized in accordance with the recommendations that also applied to other clinics within the clinical centers. Admission of new patients was limited to emergencies only, and each newly admitted patient underwent an epidemiological triage point, tested for COVID-19, and remained in a separate area designated as an isolation ward until test results were obtained. Patients with a negative test were referred to regular wards, and patients with a positive test were further treated in the isolation ward in consultation with an infectologist or were sent to particularly designed COVID-19 clinics to be treated in a conciliatory manner. For those patients who would need a psychiatric service, a psychiatrist was available.

Regarding the specificity that two psychiatric clinics are dislocated from other clinics, within the complex of UCCs, they organized their own triage points. One of these clinics organized its own isolation ward. Outpatient services were provided in two clinics, and in two clinics, services were provided to drug addicts.

The certain number of the psychiatric staff was organized to be available to the UCC, to organize the COVID clinic.

In one psychiatric hospital, every day work was organized in accordance with the current recommendations of the competent crisis headquarters, while the other psychiatric hospital transformed into the department for COVID-19 patients. In the same way, one psychiatric ward in general hospital also transformed into the department for COVID-19 patients, and in another, the rooms in the psychiatry building were prepared and divided into two parts: one for the psychiatric inpatients and the other part to be used for patients positive for COVID-19 virus. In the same time, psychiatric patients with indications for hospitalization together with the staff temporarily moved to another location, outside the hospital circle, with a significantly reduced number of beds, with the abolition of outpatient work, and with telephone consultations with outpatients instead. The work of the employees was organized through 24 h work of teams (doctor and medical technician/nurse); a part of the staff has to use vacation to decrease social interactions during the working time. In the third psychiatric ward, work was organized through the online – Skype interventions following the orders of crisis headquarters, only; and in the fourth psychiatric ward, staff worked in part time work reduced at 6 h, every day, with one psychiatrist always in preparation, to be invited for complex situations if necessary.

Two institutes for addiction diseases during the pandemic functioned on a reduced scale of all services, adhering to measures to protect and self-protect both staff and service users.

The work in the CMHCs was not organized in the unique way. To prevent the spread of coronavirus, employees were guided according to the instructions from the crisis headquarters regarding the behavior of both service users and staff: prescribed physical distance; no handling; mandatory wearing of surgical masks, gloves, and visors; and the use of disinfectants. Triage for the psychiatric patients in the CMHCs was performed at the entrance to the primary healthcare centers (PHCC), which CMHCs are part of, and no one could enter the institution until they passed complete procedure. Team members in cooperation with medical teams who perform triage allowed entrance in the premises of CMHC to emergency patients and patients who came regularly to have application of long-acting injection of antipsychotics only. At the same time, telephone and/or online (Skype and Viber) communications were available, so the psychological support was available on a daily basis for those who were prevented to visit CMHCs.

The example of two CMHCs, one from FBH and another from RS, shows us work organizations during the recommended pandemic restrictions. In the first CMHC in the FBH, at the
beginning of the pandemic, a doctor was at work in the CMHC 4 working days a week and later 5 days, according to the principle of part-time work from 7.00 a.m. to 1.00 p.m. Staff were divided into two teams, every team (a physician, psychologist, occupational therapist, and a nurse) was engaged 1 working week (5 working days), while another team was free at home. In case of patient suspect on COVID-19, they would refer him/her to the hygienic epidemiological service (HES). A special telephone line for psychological counseling and support was available 24 h per day. All patients who had regular appointments with the psychiatrist (first examine and controls) were called by phone. Patients who expressed the need for help received services at the CMHC premises with adequate triage related to the current COVID-19 pandemic. Chronic patients with open files were called daily by CMHC staff with brief notes on their condition, receiving services at CMHC premises as needed. Patients discharged from hospital treatment came to the CMHC premises for a regular examination, to continue outpatient treatment. For those who do not visit CMHC, they would be contacted by phone with another appointment. The long-acting antipsychotics applied regularly in the CMHC. For the elderly patients, there was cooperation with the home visit service, and depot preparation would be applied in the patient’s home. All emergency examinations referred by other doctors, sometimes with a prior telephone consultation, realized in the CMHC or a psychiatrist from CMHC visits premises of other services medical wards/units for necessary psychiatric services. The psychologist provided services via Skype when needed. A special record of service provision has been opened in cooperation with the Federal Ministry of Health and the Mental Health Project in BH. Every Wednesday, there were meetings of CMHC’s representatives throughout BH via the ZOOM application, for the exchanges of new experiences and for applying of the necessary guidelines. Patients included in case management were contacted regularly by their case managers. CMHC staff visited the local media to inform the public about coping with potential psychological problems that occur on such occasions.

In the second CMHC, immediately after the confirmation of the first case of infection with COVID-19 (March 5, 2020) in the RS, employees of CMHC started following the instructions of the competent institute of public health of RS, in terms of preparations for a pandemic. From March 16, 2020, a state of emergency was declared in the RS, and from March 23, 2020, the working hours of CMHC was shortened for 1 h. From the beginning of March, employees started using PPE. Considering the staff schedule and CMHC space, all team members have the opportunity to use separate rooms. For over 12 years, employees have been working on principles that have been established as a mandatory standard for many years, and usually, there were no crowds or spending longer time in the waiting room, because all registered or new service users adhere to the scheduled visits (minimum 20 min for checkups, minimum 45 min for first checkups, and minimum 60 min for psychotherapy and group and occupational therapy services), and home visits performed regularly too. After March 23, 2020, the number of visits to CMHC reduced according to the expressed wishes of the users, in accordance with the recommendations from the management. From March 28, 2020, in the RS, a state of emergency has been declared, but the needs of users have been put in the forefront, with prior taking of epidemiological data (algorithm made in the institution), with the signing of the Patient’s Statement on the accuracy of data. Regularity of general disinfection, with disinfection of used parts in CMHC after each visit of users (chairs, tables, ballpoint pens, handles, toilet for patients, etc.), is a routine that all employees perform in the CMHC permanently. From May 4, 2020, work reduced at up to 50% of capacity, with a reduction in working hours, and thus, the dates for arrivals have been modified. All patients disinfect their shoes before entering the CMHC, they are obliged to have a mask and gloves before entering (in case of not having it, nurse provides it to them), and the staff wear masks, gloves, and protective visors. In front of CMHC, two chairs were set up on a distance of 2 m, which are regularly disinfected after use, for the needs of possible escort or earlier arrival of the patient, if there is one user already in the CMHC. All team members regularly wash their hands with soap and alcohol disinfectant after all activities and use paper towels. From May 4, 2020, in accordance with the instructions from the PHCC, all CMHC employees and visitors measure their body temperature with a noncontact thermometer before entering the CMHC. All rooms are continuously ventilated naturally.

In two CMHCs, teams were divided and all staff is not at work on the same day. Users were contacted regularly by telephone and the situation was monitored. In another CMHC, work is continued as regularly during the normal working hours, and after that, the emergency medical service continued to meet the needs of psychiatric patients, as provided for in the procedures. The team worked in complete composition but did not provide group treatment and home visits. Instead of the planned home visits, they organized telephone consultations.

The employees of the third CMHC communicated with patients exclusively by telephone in the initial phase of pandemic. Phone calls performed every day; some patients were called less or more frequently to report on the current situation according to their needs. For the patients in emergency need, the visit in the CMHC was allowed, but only for one patient escorted with a family member, if necessary, and after passing all epidemiological and protective measures. The psychiatrist performed several consultative examinations in local quarantine, and a telephone support line “Psychological Counseling” was organized, as well as a line in the context of domestic violence during the period of
lockdown, for which a social worker was in charge. The two mobile numbers listed were available 24 h a day.

Several CMHCs organized that team members worked alternately, so the CMHC services have been available to users every day. Nurses were present every day while the neuropsychiatrist, psychologist, and social worker took turns, so there were two members of CMHC team on duty every day. Home visits were performed on call, according to the assessment of necessity and for the regular applying of long-acting antipsychotics. Team members were available for CMHC users as well as to all other citizens who needed some help. When team members used “free” days, they performed some of the obligations from their homes (by phone, Viber, or/and Skype). They come even after work time to the CMHC premises if necessary. The management of the institution had great confidence in team members’ work, so the organization of the center was left to them with support of their every proposal.

Like psychiatric wards, one CMHC also was transformed into an isolation ward, due to the order of the crisis headquarters, and psychiatric service was relocated to the other rooms of the PHCC. After regular working hours, team members continued to work continuously from home so that their patients had psychosocial support 24-h a day. To realize this, the local radio station was included, and the contact phone number was announced continuously every day.

Several CMHCs continue with patients’ home visits, with monitoring their health condition, not only providing parenteral therapy at home but also keeping telephone communication with patients. In CMHCs where patients did not visit the CMHC due to the decision of the competent crisis headquarters for preventing the spread of coronavirus and the needs of the population during a pandemic, the needed services (psychosocial help and support) were provided through the work of emergency medical care, home visits, and occupational therapy at home. The online psychosocial assistance and interventions by the phone were available for 24 h.

**Organization of the work with psychiatric inpatients and outpatients**

As emphasized above, we have different ways and levels of organization of the work with inpatients and outpatients in BH. In some institutions, there are no changes in the application of psychiatric doctrine in the treatment of patients in the hospital, except reduction of group treatments. These therapeutic activities take place in the wards where patients are housed.

In other institutions, patients who were not in a severe mental health condition were discharged for home treatment after the proclamation of pandemic measures. More severe patients who required acute intensive or semi-intensive care were kept in hospital during the COVID-19 pandemic and only emergency patients are admitted to the hospital. Therapeutic activities with inpatients and organized forms of work were interrupted, except for some basic activities that solved the patient’s somatic condition. Occasional psychotherapeutic and sociotherapeutic interventions were performed with inpatients, and there were continual phone contacts with family members due to prohibited visits to hospitalized patients. The services of the Day Hospital have been temporarily suspended in the psychiatric clinics and wards.

The performed management model employed at psychiatric inpatient care in BH represents a daunting challenge for effective control of infectious disease and thwarting outbreaks within institutions. The staff in the psychiatric clinics/hospitals/wards is burdened with a challenging administrative mission during this period. The principle “defense against the import, prevention of internal outbreak,” needs to be followed, so the health and interest of psychiatric patients and their relatives should be safeguarded to the maximal extent (Li *et al.*, 2020).

According to the pandemic measures, the specialist–consultative service was reduced to the minimum, only with those outpatients whose examinations could not be solved at the primary and secondary level of healthcare. The admission and specialist infirmaries worked 24 h a day, and the medical staff was assigned to the shifts. For some chronic patients with an indication, and who were not urgent, an examination was performed, with prescribed epidemiological measures. In some psychiatric wards, telephone and online (Viber and Skype) consultations were only performed.

The coordinated care is conducted in the same way as before, by contacting the competent CMHCs and informing the centers about the discharge of the patient through own care coordinators. Further, the competent psychiatrists from the CMHCs are to inform clinic coordinators in case of need to admit the patients with indicated hospitalization. PPE was provided to staff in some institutions in a timely and complete manner and in some in an untimely and incomplete manner.

**Experience working with patients and/or employees diagnosed with coronavirus disease 2019**

The most of the respondents in this study had no experience in working with patients and/or employees diagnosed with COVID-19. Only in one clinic, employees had some experience, but these data will be possible to gather when they return to regular activities at the clinic. In one CMHC, infected people with COVID-19 from abroad sought help by the phone. All other participants had no COVID-19-positive
patients during the study period, so they had no experience working with such patients.

**Organizing of staff and citizens education/training on the new coronavirus**
Training of staff in the psychiatric institutions in BH on the novel coronavirus began in the late February and took place during March. Different modalities of education were used. In some institutions, all employees had practical training in the use of PPE and received brochures and procedures with precise instructions. In other institutions, employees received continuously the necessary information and notifications, through the media from the WHO and the relevant staffs of the entities’ Ministries of Health, from the Cantonal Ministry of Health and Civil Protection, as well as from the internal notifications of the Crisis Staff, which were forwarded to all departments by e-mail and to the Viber group. Further, the education was organized within the competent institution, so there was no need to do own education individually at the lower level.

In some institutions, there was no particular education, they used the recommendations of the WHO and the Institute for Public Health (IPH) and the procedures of other institutions made for COVID-19, or there were spontaneous sharing of important information in personal contacts, with written materials, online, or Viber.

In CMHCs, education on coronavirus was done by paper letters and electronically by HES, IPH, or through the instructions and recommendations of the WHO and IPH (organized meetings of team members with signatures of the participants, posting all educational materials on the website of the IPH available to each employee with an individual account) and on computer desktops for each team member (as a reminder); in a similar way, the education on patient guidance and the way of work with patients was also done. All these educational activities are carried out with the help of infectologists and epidemiologists and in the organization of the management of the institutions to which the psychiatric units of the listed levels belong.

**Mental and behavioral changes in patients and psychiatric staff related the current situation**
All respondents in the study observed mental and behavioral changes in their patients that may be related with the COVID-19 pandemic. Feeling of intense fear of being COVID-19 positive re-test, fear of developing a more severe clinical picture, fear of their own death, and fear that they might have infected someone from a family member or friend were present. Posttraumatic stress disorder (PTSD) in people who have previously experienced trauma and worsening of the condition in people who have previously shown even milder symptoms of some of the mental disorders were also recorded. Feeling of insecurity, re-intensification of anxiety attacks, and anxiety with accompanying behavioral disorders in terms of dysphoria and aggressive episodes, sleep and appetite disorders, as well as mood disorders with an orientation toward depression were noticed.

In our study, we found that suicidal attempts, acute psychotic crises, several cases of paranoid interpretation, burning of their own house, excessive alcohol use/missuses, exacerbation of bipolar affective disorder, and setting a car on fire were also presented. In severe cases, hospitalization was indicated and realized. Therapy was applied individually with psycho-pharmacotherapy and supportive psychotherapy, with the described work at the clinic.

In a number of patients with chronic addiction disorders, who are in long-term treatment programs, especially in the opiate replacement therapy program, the appearance of anxiety symptoms was noticed, accompanied by behavioral disorders in terms of dysphoria and aggressive episodes, sleep and appetite disorders, and mood disorders with depression orientation. On the other hand, patients showed greater respect for the institution and therapists and greater responsibility for themselves, with care for roommates.

All respondents in the study are expecting the real comprehensive consequences of this situation after pandemic quitted. As in the general population, employees felt fear of contact with patients which was reduced over time by the introduction of protective measures and strict keeping of it. Fear of being able to be infected with COVID 19 in contact with patients and then inadvertently transmitting it to own children or parents at home. In several cases, among team members, fear of infection, anxiety, somatization disorders, back pain, frequent urination, insecurity, and fear of uncertainty were also presented. Some employees took shorter sick leave; pregnant women took longer sick leave, as well as those with chronic diseases (multiple sclerosis and chronic obstructive pulmonary disease).

**Organization of substitution therapy for addicts (methadone, buprenorphine, buprenorphine/naloxone)**
The continuity of therapy was regularly maintained. The number of doses to take was increased. There are differences in the approach to substitution therapy due to the specific conditions for working with chronic opiate addicts. In one institution, prescriptions for buprenorphine/naloxone (BUP/NAL) and BUP were prescribed instead for 28-day period as before, on the period of 48 days. In another, the services were available 24 h a day on an open telephone line, the distribution of methadone relaxed for several days (7–14), and prescriptions for BUP/SUB were prescribed for 14 days. There were no overdoses or deaths. In the third week, patients came regularly according to the schedule as before and regularly received once a week specialist findings for therapy (methadone, BUP/NAL, and BUP) after which they went to family medicine for prescriptions. With
the goal of reducing the movements of at-risk patients, a medical technician in one CMHC delivered BUP/NAL at patient’s home accompanied with the police officers. There were not any complications or problems of a communication nature (as said before, due to the increased degree of patients’ responsibility and respect for the institution).

Telepsychiatry in Bosnia and Herzegovina, possible perspective

As emphasized above, the telepsychiatry standards and norms that would allow this very useful working tool to provide and register (charge) health services in this way are much needed. There are some forms of recognizing of the online consultations service, but it is not regulated on the state level of legal administration. However, this issue is important not only nationally but also internationally.

During COVID-19 pandemic, psychiatric employees organized different ways of keeping therapeutic relations with their patients and their family members to maintain safety and continual therapeutic modalities through online techniques. In addition, individual psychotherapy, group psychotherapy, and group socio-therapy and check-ups through online techniques are beneficial. The experiences are very positive. Despite online not being administratively recognized in the regular procedure with patients, team members are maintaining it from the institution and from the house/apartment. Some online consultation of patients with a psychologist is also accepted as regular; however, in most cases, it is not possible to register clients who have consulted a psychologist online because most of them have no health insurance regulated or some of them are insisting on anonymity.

The performing online self help groups with oncology patients, with parents of children with physical disabilities, with young people with physical disabilities, with people with symptoms of anxiety, and depressive disorders, and PTSD, as well as with volunteers from associations that help people are additional argument for how telepsychiatry helps in daily life of mental healthcare providers’ and users.

The first online practice for psychiatry and psychotherapy in BH (https://www.drpajevic.com/) has been operating since 2015, and since 2017, it has also provided group analysis services. It was established with the primary intention of making psychiatric and psychotherapeutic care available in the mother tongue more accessible to patients who were displaced around the world after the break-up of the former Yugoslavia and ensuing war. During the COVID-19 pandemic, an evident increased interest in this type of assistance is recorded in this practice.

Self-initiative organization of some forms of psychological help/support in the new situation

Most of the study participants responded that they had no plan in own environments to be undertaken regarding the current and future mental health problems related to COVID-19. A small part of respondents replied that they do not have a plan but they are preparing it. Education of staff, patients, and citizens was regular with direct instructions through meetings, in writing and electronic media. Through the Psychiatric Association of Bosnia-Herzegovina (PABH) website, prominent PABH members provided crucial public information for patients and citizens who have psychological problems due to the COVID-19 pandemic (Sinanović, 2020), for rapid tranquilization for doctors with agitated psychiatric patients (Džubur Kulenović, 2020), and for addicts to psychoactive substances (Mehić-Basara, 2020).

In one institution, team members have offered psychological support to the healthcare professionals working in other specialist branches; in another, staff member provided daily support for the vulnerable category on Skype, Viber, and phone with the “huge” response of users. The psychological help for pregnant women is performing in the third institution by phone in cooperation with gynecologists and psychologists. Team members are available to the civil protection headquarters of both the regional and the city in psychiatric institutions for psychosocial support to people in home isolation and quarantine established. The psychoeducation and counseling through local media performed in several CMHCs helped with organizing of psychological crisis interventions provided by phone, when phone numbers were published through the media. In some situation, the response was very humble due to lack of severe feeling of threatening when people adapted to the new situation.

DISCUSSION

This study provided a comprehensive and in-depth understanding of the organization of BH psychiatric institutions to provide as sufficient as possible environment for prevention, treatment, and psychosocial rehabilitation of BH citizens during the COVID-19 pandemic through a phenomenological approach. It is not easy to describe all efforts and activities that were performed because of complexity of political and healthcare system in BH after the war 1992–1995. As Sinanović et al. (2009) and Ceric et al. (2001) described, the healthcare systems in BH are regulated basically by the entities’ different laws on healthcare and health insurance.

Although We have different ways and levels of organization of the work of the psychiatry clinics/hospitals/wards/institutes for drug addiction and CMHCs since the establishment of emergency measures to prevent and control the spread of the novel coronavirus.

To organize mental healthcare with outpatients and inpatients during this pandemic, we need to employ new management models in mental healthcare facilities. This
is necessary for effective control of infectious disease and thwarting outbreaks within institutions. The general principle needs to be “defense against the import of infection, prevention of internal outbreak” (Li et al., 2020). In our study, we found that during the COVID-19 pandemic, in psychiatric institutions, only emergency patients were admitted for inpatient care. Before entering to any clinic, all patients and escorts, including policemen and emergency service employees, need to pass through a triage tent. During the pandemic, all services functioned on a reduced scale, adhering to measures to protect and self-protect staff and service users. To provide as comprehensive as possible care for corona-infected patients, the COVID-19 hospitals/departments/units were established in every healthcare complex for patients with a positive polymerase chain reaction (PCR) finding in the premises out of psychiatric institutions.

Li et al. (2020) proposed certain suggestions and strategies for psychiatric hospitals during the ongoing COVID-19 epidemic. They underlined that preliminary screening, pre-examination, and triage with fever clinic management at psychiatric hospitals are particularly crucial. Medical care staff need to collect all relevant patient information such as name, gender, age, job, home address details, and phone number, particularly information about traveling and contacts with those who were traveling around the globe. For psychiatric patients with possible violent behaviors, security personnel should be ready to maintain order with promptly actions. All staff at the mental healthcare settings should be equipped with the appropriate protective equipment. Signs should be posted to remind patients to protect their respiratory system and frequently wash hands with keeping adequate physical distance.

Patients who match critical psychiatric illness standards and who are considered as potential carriers of COVID-19 shall be kept within the infection quarantine ward to receive treatment, according to the potential virus carrier protocol. On the other hand, patients who match critical psychiatric illness standards but are not considered as potential carriers of COVID-19 should be kept within the psychiatric transition and observation isolation ward for 14 days, as per the clinic and emergency room protocol, before being transferred to a regular ward when relevant conditions are met (Li et al., 2020). Visits to inpatients from their relatives need to be restricted; staff should refuse relatives from visiting a hospital or bringing over food and other items during the ongoing epidemic, except for special circumstances. They can be informed about the condition of the patient and treatment plan by phone. All staff (including doctors, nurses, assistant attendants, and janitors) need to be assessed on the risk of infection daily. In addition, the ward should arrange staff with infection risk to quarantine at home or quarantine at work (Li et al., 2020; Li, Stanley, and Fortunati, 2020).

The health and interest of psychiatric patients and their relatives should be safeguarded to the maximal extent. Clearly, preventive measures, such as the provision of adequate medical supplies and protective equipment, public education on the risks of COVID-19 for hospital staff and patients, and restricting family visits to hospitals, are essential to reduce the likelihood of disease transmission in major psychiatric hospitals (Ruddin, 2020). Psychiatric hospitals should assist the community in the management, treatment, and care of people with severe mental disorders at home (Li et al., 2020). General concerns exist in the psychiatric or general wards when patients with possible COVID-19 are admitted into hospitals. In fact, due to the difficulty of management of patients in restricted or open psychiatric wards, a whole array of behaviors can put these patients and their careers at risk of COVID-19 infection. If a patient is at risk and has been admitted into an intensive care unit in a hospital, risks exist in managing both the viral infection and the psychiatric presentation (Lazzari et al., 2020).

Moreover, all people including patients’ families and healthcare workers need to be advised to wash hands regularly and maintain good personal hygiene. Measurement of body temperature should be performed at least once a day to closely monitor any suspected infectious symptoms. Activities involving group interaction in communal areas should be avoided. Moreover, to minimize the potential risk of nosocomial infection, isolation units should be established and hospital access should be restricted for inpatients (Ruddin, 2020). Another huge issue is the challenges of delivering psychiatric care to patients with serious mental illness living in the community. Clinically stable patients with major psychiatric disorders are usually required to visit hospital outpatient clinics, often far from their homes, to obtain their monthly maintenance medications. The similar problem has drug addicts who are in drug substitution programs who need to visit drug addiction centers to take substitution therapy on daily or weekly base (Xiang et al., 2020).

In our study, we found that patients who do not need psychiatric hospitalization, after examination and writing of findings, were referred for further treatment on an outpatient basis or to another clinic as indicated. Patients who need hospitalization are placed in the isolation ward, equipped with needed PPE of the highest risk. Taking of a nasopharyngeal swab, for PCR test, organized differently in different psychiatric institutions. Psychiatric nurses are responsible for this delicate task in some institutions, while in other, the employees of HES performed these needed services. After taking the biological material which needs to be sent immediately to the microbiology at the competent healthcare institution, in a special vehicle and accompanied by a psychiatric nurse, it is necessary to wait a little bit more than 12 h for the result of the PCR findings. When the result is
negative, patients are transferred to the continual intensive psychiatric treatment; however, if a patient is PCR positive, he/she is hospitalized in COVID-19 clinic, to be treated in a conciliatory manner, and for those patients who would need a psychiatric service, a psychiatrist was available.

The suspension of public transportation in BH cities had created significant barriers for patients to access treatments and is likely to widen the treatment gap for serious mental disorders or for drug addicts at least in the short to medium term. Existing appropriate mental healthcare reform of the health insurance and development of community-based mental health services enabled availability of psychotropic medications at community CMHCs and reduced patients' need to travel, thereby decreasing pressure on the psychiatric hospital outpatient clinics. Furthermore, community psychiatric outreach services by the psychiatrists and nurses should be developed for clinically stable patients. To avoid the need to attend hospitals, mental health professionals could use specially designated vehicles to visit patients at home to assess their symptoms and provide necessary medications (Xiang et al., 2020).

The psychiatric wards in general hospitals in two BH cities were transformed into the departments for COVID-19 patients, and in one, the rooms in the psychiatry building were prepared and divided into two parts: one for the psychiatric inpatients and the other part to be used for patients positive for COVID-19 virus. In the same time, psychiatric patients with an indication for hospitalization were located in other locations together with belonging psychiatric staff with a significantly reduced number of beds, with the abolition of outpatient work, and with telephone consultations with outpatients instead.

The work of the psychiatric employees was organized in different ways. In some institutions through 24-h work of teams (doctor and medical technician/nurse), work in shifts, part of the staff has to use vacation; in other institutions, in part-time workers, work reduced at 6 h, every day; in the third, through the telephone or/and online interventions following the orders of crisis headquarters.

The work in the CMHCs was not organized in the unique way, also. To prevent the spread of coronavirus, employees were guided according to the instructions from the crisis headquarters regarding the behavior of both clients and staff. Team members in cooperation with medical teams who perform triage allowed entrance in the premises of CMHC to emergency patients and patients who came regularly to have application of long-acting antipsychotics only. At the same time, telephone and/or online (Skype and Viber) communications were available, so the psychological support was available on a daily basis for those who were prevented to visit the CMHCs (Duan and Zhu, 2020).

The organization of psychiatric care for large, but vulnerable population with mental disorders needs to be comprehensive and very strict regarding self-protection of both psychiatric staff and patients during this epidemic. Epidemics never affect all populations equally, and inequalities can always drive the spread of infections. Yao et al. (2020), as the mental health and public health professionals, call for adequate and necessary attention to people with mental disorders in the COVID-19 pandemic.

According to the pandemic measures, the specialist–consultative service was reduced to the minimum, only with those outpatients whose examinations could not be solved at the primary and secondary healthcare services. The admission and specialist infirmaries worked 24 h a day; the medical staff was assigned to the shifts. For some chronic patients with an indication, and who were not urgent, an examination was performed, with prescribed epidemiological measures. In some psychiatric wards, telephone and online (Viber and Skype) consultations were only performed.

Human rights of the individuals with mental disorders must be protected, and appropriate and safe services may be provided for their treatment. The negative impact of the pandemic on government budgets should not be used as an excuse to reduce essential services for people with mental illness during or after the pandemic (Kallivayalil, 2020).

Education on the pandemic safety measures should be provided by authorities and reinforced by psychiatrists (Kallivayalil, 2020). As emphasized above, we have different ways and levels of organized education/training of psychiatric employees and citizens on the novel coronavirus in BH. Training of staff in the psychiatric institutions began in the late February and took place during March. Different modalities of education were used. In some institutions, there was no particular education, they employees used the recommendations of the WHO and the IPH and the procedures of other institutions made for COVID 19, or there was spontaneous sharing of important information in personal contacts, with written materials, online, or Viber. Protective equipment was provided to staff in some institutions in a timely and complete manner and in some in an untimely and incomplete manner.

The psychological condition of the masses is influenced due to the uncertainty of ending of this pandemic. Until today, experts could not agree when the end of COVID-19 may be expected. The uncertainty about disease control and risk level is one of the most stressful conditions for humans. Our findings confirmed that COVID-19 pandemic as any stressful situation, caused by a disaster, other pandemics, fear, and uncertainty, various kinds of psychological problems such as anxiety, PTSD, and behavioral disorders in terms of dysphoria and aggressive episodes, sleep and appetite.
disorders, as well as mood disorders with an orientation toward depression and stress do often arise (Dar, Iqbal, and Mustahaq, 2017; Xiang et al., 2020). Anyone, both medical workers, infected victims, victims’ families, and even the community in general can be affected with these psychological problems (Kaj et al., 2020).

As regard the COVID-19 epidemic has caused a parallel epidemic of fear, anxiety, feelings of helplessness, sickness, and depression, and death at the individual level, people with mental health problems could be more substantially influenced by the emotional responses brought on by the COVID-19 epidemic, resulting in relapses or worsening of any already existing mental health problem, due to the high susceptibility to stress compared with the general population. Further, many people with mental health disorders attend regular outpatient visits for control evaluations and prescriptions. Meanwhile, the travel and quarantine restrictions have resulted that these regular visits became more difficult and impractical to realize (Yao, Chen, and Xu, 2020). If these mental problems are not addressed, the worst effect is that individuals can commit suicide. There are suggestions that suicide rates will rise although this is not inevitable (Gunnell et al., 2020). In our study, we found that suicidal attempts, psychotic reaction, several cases of paranoid interpretation, burning of own house, excessive alcohol use/missuses, exacerbation of bipolar affective disorder, and setting a car on fire were also presented. In severe cases, hospitalization were indicated and realized. Therapy applied individually with psycho-pharmacotherapy and supportive psychotherapy with the described work at the clinic (Hodžić, Hasanović, and Pajević, 2020). If these mental problems are not addressed, the worst effect is that individuals can commit suicide as a result of the COVID-19 pandemic. The cause is due to anxiety, depression, despair, and fear to trauma (Thakur and Jain, 2020).

In our study, the continuity of substitution therapy for addicts regularly maintained. The number of doses to take was increased. There are differences in the approach to substitution therapy due to the specific conditions for working with chronic opiate addicts. There were no overdoses or deaths. There were not any complications or problems of a communication nature (as said before, due to increased degree of patients’ responsibility and respect for the institution). Spagnolo et al. (2020) underlined that patients with alcohol and substance use disorders face unique vulnerability factors during this dramatic global health crisis. Considering the current and long-term impact that the COVID-19 outbreak will have on individuals with alcohol and substance use disorders, it is critical to ensure that these patients continue to have access to available and appropriate treatments.

In our study, we found some forms of recognizing the online consultations service. These critical elements allowed for rapid acceptance of telehealth by staff and patients. We believe that for the duration of the COVID-19 crisis, widespread use of telehealth systems will allow hospital-based psychiatry services to remain open, active, and clinically effective while satisfying the needs to preserve PPE and maximize social distancing (Kalin et al., 2020). Concerns about the prevention and management of COVID-19 are on the rise, as it is crucial in contagious epidemics that travel and transfer of the patients are minimal for diagnosis, treatment, and follow-ups. To better control the rapid spread of coronavirus and manage the COVID-19 crisis, both developed and developing countries can improve the efficiency of their health system by replacing a proportion of face-to-face clinical encounters with telehealth. Recent technological advancement facilitates this reform, but there is a need for national or state-wide rules and regulations to be adapted accordingly (Keshvardoost, Bahadinbeigy, and Fatehi, 2020). The COVID-19 crisis has challenged mental healthcare, especially for those with serious mental illness. Telehealth for the treatment of serious mental illness has been used primarily for occasional individual sessions with known patients. All stakeholders needed to know that the clinic would remain full service via telehealth (Medalia, Lynch, and Herlands, 2020). Regarding these opportunities, the initiative was sent to the President of the PABH, who put the issue on the agenda at the first online meeting of the Presidency of PABH. Following the agreed positions, the issue of administrative regulation of telepsychiatry in BH was forwarded to the WPA President and the WPA Secretariat. The possibility of resolving this issue on a global level is open (Pajević, Hasanović, and Račetović, 2020).

In this research, we found that as in the general population, mental healthcare workers experienced different mental and behavioral problems related to the COVID-19 pandemic. In general, healthcare professionals have been found suffering from frustration due to lack of protection from COVID-19, increased workload, prejudice from other professionals, feelings of isolation, and tiredness (Kaj et al., 2020).

As it is expected that there will be a range of long-term negative mental health consequences to this pandemic, all mental healthcare professionals are obligated to help people with mental disorders and their families, as well as to whole community in better understanding and prevention of mental health problems’ caused with COVID-19 pandemic. During this fight against corona disease, let us believe that we may achieve more successful fighting for public and global mental health with more agility (Jakovljević, 2020). The best efforts to improve people’s mental health should not only focus only on curative efforts (client-focused) but also through integrative and comprehensive efforts by increasing promotive, preventive, curative, and rehabilitative activities (Ruddin, 2020).
CONCLUSIONS

The COVID-19 outbreak has raised numerous challenges for psychiatric institutions in BH to safely manage patients' major psychiatric disorders in addition to preventing and treating COVID-19. During the COVID-19 pandemic in BH, all services functioned on a reduced scale, adhering to measures to protect and self-protect staff and service users. All patients who asked for help have been adequately treated in direct inpatient or outpatient mental healthcare or online despite telepsychiatric services are not recognized in health system in BH. There were neither infected patients nor staff with COVID-19 in psychiatric institutions who responded in this research. A large-scale, multicenter study needs to be performed to get a broader picture and to guide us for future better service planning and delivery. There has been a permanent surge in response to the outbreak of COVID-19.[1–4]

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Conflicts of interest

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