Mental Health and Tele-health Counselling

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Background: Many mental health conditions can be treated at relatively low cost using the tele-health. It also provides the opportunity for consultation with family members, teachers and other providers involved in the patient's care. **Objective:** The aim of this paper is to analyze resources in Croatia and Bosnia and Herzegovina for establish tele-health for people who have difficult access to psychological assistance. **Methods:** Authors place focus on mental health and support through the tele-mental health and working and developing a model for the professionals, both from mental health and social care in institutions for psychosocial and social support. **Results and Discussion:** Telemedicine in the Republic of Croatia has developed from an almost non-existent activity into a system that provides almost 34,000 services per year. The network of telemedicine centers in the Republic of Croatia covers 68 health care institutions and includes 139 active telemedicine centers. In Bosnia and Herzegovina there are 80 centers for mental health very well distributed across the country at the primary level of health care and with strong connections with hospitals, centers for social care, patient associations as well as with police and court. Centers for mental health are emerging as a leader in this field and as a logical starting point for the development of tele-health counselling system. **Conclusion:** In the future capacity building for tele-health is necessary. Application of tele health in the way of tele counseling could make healthcare system faster, safer, and better responding to the challenges.

Keywords: e-health, telemedicine, tele-mental health, counselling.

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1. BACKGROUND

According to the definition of the World Health Organization, mental health is described as "state in which a person realizes his abilities, can cope with the stress of everyday life, work productively and productively (1-5). It is estimated that around 450 million people in the world suffer from mental disorders, Also, mental health conditions are increasing worldwide, mainly because of demographic changes, there has been a 13% rise in mental health conditions and substance use disorders in the last decade. Mental health conditions now cause one in five years lived with disability. Treatment, reduced productivity, sick leave, and disability are burden the family psychologically and existentially are also a significant economic and social burden on society. Scientists point out that mental problems are a more common cause of illness and premature death than physical illness and estimate that depression will be the second leading cause of global disease burden over the next ten years and by 2030 the first leading cause. All of the above indicate the need to invest in mental health: early detection and treatment, and rehabilitation and improvement of mental and thus general health, thus contributing to the well-being and economic benefits of the individual and society. There are several barriers for patients who need care: Attitudinal barriers (e.g. wanting to deal with it on one's own); Financial barriers; Lack of services available; Lack of transportation; General inconvenience; Shortage of mental health care professionals.

"Tele-health' is a more universal term for the current broad array of applications new technology in the field (Tele-health is a form of video conferencing allowing psychiatrists and therapists to provide services to patients outside of the office, for example at the patient's home or workplace. It also provides the opportunity for consultation with family members, teachers and other providers involved in the patient's care (6-10).

Tele-health is making much easier to connect patients and providers, allows more privacy and gives patients in remote or rural areas a better chance at recovery. Health professional, before they start with tele-counselling, they must assess the patient's cognitive abilities and capacities, his/her willingness to cooperate during the tele-sessions and his/her level of compliance with therapy provided and other recommendations as well as history of violence or self-injuries behaviour (11-18).

2. OBJECTIVE

The aim of this paper is to analyse resources, practice of telemedicine in Croatia and Bosnia and Herzegovina and

human and technological resources for installation of tele-health as a first step to increase access to mental care.

3. METHODS

Authors place focus on mental health and support through the tele-mental health and working and developing a model for the professionals, both from mental health and social care in institutions for psychosocial and social support.

4. RESULTS AND DISCUSSION

The development of telemedicine in the world can be traced back to the 19th century when the exchange of information needed for diagnosis and treatment was carried out by mail, telegraph, telephone, or/and radio communications. In Croatia, modern approach for remote treatment began to develop almost 15 years ago when the Croatian Institute of Telemedicine was founded. Pursuant to the Law, the Health Care Act (OG 100/18), the Institute is today part of the Croatian Institute of Emergency Medicine (HZHM), within which, as the Telemedicine Service, it continues to regulate telemedicine at the national level. Telemedicine in the Republic of Croatia has developed from an almost non-existent activity into a system that provides almost 34,000 services per year. The network of telemedicine centres in the Republic of Croatia covers 68 health care institutions and includes 139 active telemedicine centres. The growth in the number of telemedicine centres, as well as the services provided, is clearly shown by the statistics collected by the Croatian Institute for Telemedicine Service since 2011 when there were 37 telemedicine centres in the Republic of Croatia that performed 1,013 services annually. The number of centres increased to 109 in 2015, and thus the number of services provided increased to 14,801.

In the first four months of 2019 alone, as many as 11,313 telemedicine services were performed. The network of telemedicine centres ensures equal access to health services throughout the Republic of Croatia. The equipment, computer, and communication infrastructure for each telemedicine centre are procured, configured, and installed by the Telemedicine Service (TS). TS was educating health professionals to use it. In their premises, there is a central server from where the Network is monitored and provides technical support to all telemedicine centres 24/7. All centres are interconnected by the optical fibbers, and with such a setting, the provision of telemedicine services using data, voice, and video communication are quite simple. Telemedicine services are provided at the primary, secondary, and tertiary levels of health care, and recipients and service providers include a variety of health facilities, from clinical hospital centres in major cities to health centres.

Medical services included in telemedicine services are those in radiology and cardiology, that is, more precisely, the exchange of radiological images and diagnostics of ECG. Telemedicine has been used in radiology in Croatia for many years. These are usually radiological

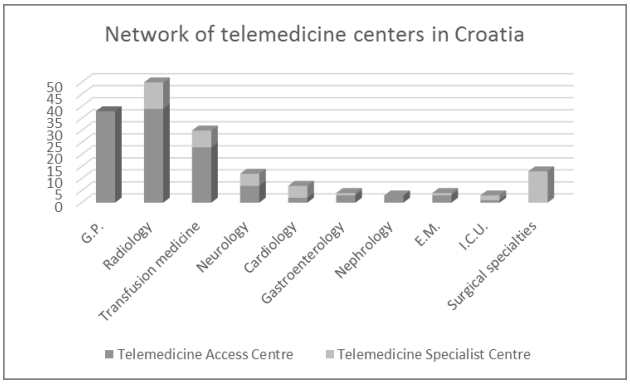


Figure 1. Network of telemedicine access centre and telemedicine specialist centre by specialities in Croatia (Source: Ministry of Health: Decision on the adoption of a network of telemedicine centres in Croatia-Official Gazette 115/2019)

images or computed tomography (CT) and magnetic resonance imaging (MRI) scans taken in one place and examined by health professionals in another, the remote place from where they make a diagnosis and send opinions and recommendations for therapy. The primary goal of introducing telemedicine radiology services is to make radiological examinations accessible in isolated and hard-to-reach areas such as islands and rural areas, and health facilities with a lack of appropriate professional staff.

The range of telemedicine services is constantly expanding thanks to technological innovations that are continuously adapted to health requirements (Figure 1.) If we take into account the growing shortage of doctors, especially specialists, and the geographical specificity and tourist orientation of the country, the importance of telemedicine services in the Republic of Croatia, especially in smaller areas and isolated and locations that are difficult to access, is growing rapidly. Croatian Institute for telemedicine service uses two telemedicine technologies, real-time and store-and-forward. Store-and-forward technology is much easier to implement and better accepted by healthcare professionals.

In Bosnia and Herzegovina as stated in the document "Policy and strategy for the protection and improvement of mental health in the FBIH (2012–2020) "the mental health care system in Bosnia and Herzegovina is until the declaration of independence rested on a hospital care system that included hospital wards within general hospitals, psychiatric clinics within three clinical centers, psychiatric hospitals, psychiatric colony, Institute for Alcoholism and others drug addiction and neuropsychiatric dispensaries at primary health centers (2).

After the reform of the mental services system Health in the Federation of Bosnia and Herzegovina (FBIH) mental health services are provided through a network of 45 community centers for mental health. Every center of the mental health has ten psychiatric beds at the psychiatric wards of general hospitals. Mental services health at the secondary and tertiary levels are provided in the psychiatric clinics of clinical centers and in nine psychiatric wards cantonal hospitals (5). Also, a portion

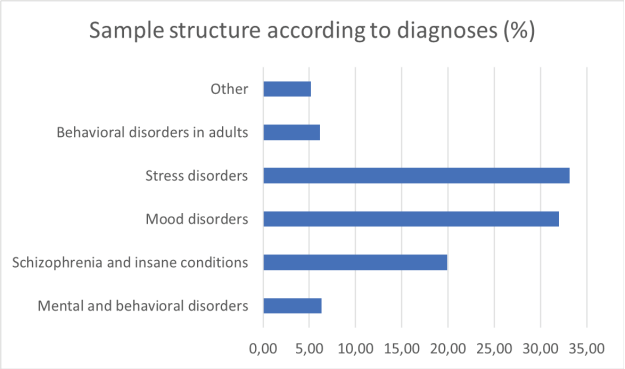
of psychiatric patients is accommodated in social care institutions together with people with special needs. There are 29 Centers for Mental health in the Republika Srpska (RS). At the secondary and tertiary levels health care services are provided at the Clinic for Psychiatry and psychiatry wards in general hospitals in four general hospitals. With single center for mental healt located in the Brcko district total number of centers in BiH is 80.

Therefore, in Bosnia and Herzegovina centers for mental health are emerging as a leader in this field and as a logical starting point for the development of the mental health tele-counselling. Also, in both Federation of BiH as well as in Republika Srpska, there are in place established certification and accreditation system and very well-functioning process for quality assessment of health care institutions. In that regard there are developed and adopted accreditation and certification standards which further define their work. Out of a total of 10 standards and 110 criteria for mental health centers, 62 criteria relate to certification process and 49 to accreditation, divided into five chapters: Management, Mental Health Center Services, Records, Quality and Safety of Mental Health and Physical Factors (2, 12). The health authorities declared that the certification of health care institutions is legally obligatory and refers to the security of service provision (safe health care services, safe working environment and safety of health care workers or associates in the health care institution) and it is precondition for accreditation which is voluntary. Small adaptation of the standard could largely encourage development of the tele-support for persons with mental health needs.

Telemedicine is an effective and necessary tool of the contemporary healthcare systems and the only solution that ensures the availability of top specialist healthcare services to all patients, even those in hard-to-reach locations like remote islands in Adriatic sea in Croatia or difficult to approach villages high in the mountains in Bosnia and Herzegovina, which is of particular importance for emergencies. Due to the constant progress of technology, but also negative trends in society such as demographic aging and economic migration of the population and the increasingly noticeable decline in the interest of specialist doctors to work in smaller cities, the development of telemedicine has its own place in the future.

Mental health care and treatment of a mental illness is usually provided in a classic way, but due to the not always available specialists, especially in small communities, it is important to establish a model for psychological help and psychosocial counselling from a distance. This could be a way to reach more patients and even to cover all population which need psycho-social support.

One of the most important finding is lack of organisational and technological resources (7-10). Mental health care professionals as well as social workers from the centres for social work do not have enough equipment as computers, laptops not even smart phones for official use neither quick access to the mental health service and Internet. Similar problem had patients as well. The biggest problem seems to be reliable connection to Internet like broadband services (13, 14)



Graph 1. Sample structure according to diagnosis in FBiH (Adopted from the Association XY report: Examining the availability of mental health services in Bosnia and Herzegovina, 2017).

The tele-health as m-Health has the potential to reduce waiting times for appointments; eradicate the need to meet in person with a clinician, successively diminishing the workload of mental health professionals; be more cost effective to practices; and encourage self-care tactics. Previous research has given valid evidence with empirical studies proving the effectiveness of physical and mental health interventions using mobile apps.

One of the possible communications using new technology and smart phone are SMS (Short Message Service), Viber, Whatsapp etc. It is not official communication, but it could be useful if person need quick response. The greatest number of the salient applications for SMS as an intervention is the dispersion of psychoeducation for mental health ailments. There are services that provide information on different serious disorders or other mental health disorders such as depression, anxiety, and stress. SMS are sent to primary, private inboxes of the participant and can easily be received and disposed of; this could be one such reason for their efficacy as mHealth interventions. SMS mHealth interventions are also anonymous and therefore, break down certain barriers to accessing health care and eradicate stigma. Stigma in mental health is the reason why the average delay between the onset of symptoms and interventions is between eight and ten years. Online counseling could be that people who need service and the treatment do not wait for such a long period of time.

One of most important matter for realization of the tele-health in health professional's practice is appropriate education about this topic during medical study. At Sarajevo University this topic has been involved in the curricula of the Medical informatics at the biomedical faculties twenty years ago and experience about it were presented on a lot of scientific conferences and published in the scientific publications (7-9, 11-18)

5. CONCLUSION

In the future, the capacity building for mental health through the tele-health is necessary; education of health-

care workers, changes in legislation. Application of tele health in the way of tele-counselling could make healthcare system faster, safer, and better responding to the challenges.

Combining Croatian experience of the Institute of Telemedicine as part of the Croatian Institute of Emergency Medicine and Bosnia and Herzegovina efficient network of centres for mental health as well their accreditation standards and system could be guidepost how mental health tele-health counselling should be further developed.

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