REVIEW

Telepsychiatry in the Arab World: A Viewpoint Before and During COVID-19

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Purpose: Telepsychiatry, a subset of telemedicine, has been increasingly studied to meet the growing demands for psychiatric care. The utility of telepsychiatry is relevant now more than ever as the world endures the COVID-19 global pandemic. This paper describes the prior state and the changes that the COVID-19 outbreak brought to telepsychiatry in a selected group of Arab countries of the Middle East and North Africa (MENA) region.

Patients and Methods: We invited twelve early-career psychiatrists from different Arab nations to share information related to telepsychiatry in their respective countries before and during the COVID-19 pandemic. The information was collected using a semi-structured guide. This was complemented by a search for relevant articles in five search engines using terms such as "COVID-19," "telepsychiatry," and "Arab world".

Results: Before the pandemic, digital mental health services were provided in several Arab countries, mainly through hotlines and messaging services. The COVID-19 pandemic has marked a major shift in digital psychiatric services in the Arab MENA world, through the transformation of many clinics and some hospitals into digital mental health systems. Many non-governmental organizations also started remote initiatives for psychological support and psychiatric counseling. Three main barriers of patient-related, healthcare-related, and system-related hurdles of using telepsychiatry emanated from the analysis.

Conclusion: The use of digital mental health services varies between different Arab countries. Even though some nations have laws that regulate the provision of such services, most struggle with multifactorial barriers. As affordable and attainable solutions cannot only rely on training and recruiting more psychiatrists, telepsychiatry would help meet the exceeding demands in the Arab world, particularly after the COVID-19 outbreak.

Keywords: telepsychiatry, mental health, Arab, COVID-19

Introduction

Telepsychiatry, a subset of telemedicine, has been increasingly studied to meet the growing demands for psychiatric care.[1] It provides a range of services, including psychiatric evaluation, medication management, therapy, and patient counseling. The most predominantly used communication platforms in telepsychiatry are synchronous technologies, mainly via videoconferencing.[1] Asynchronous technology through messaging services has also been used.[2] Telepsychiatry has introduced several benefits, such as decreased cost, reduced stigma, and better continuity of care. Moreover, it has helped remove multiple barriers to accessing psychiatric care, particularly the scarcity of resources, shortage in mental health professionals, inaccessible geographic locations, and fragmented care.[1,3–5]

The utility of telepsychiatry is relevant now more than ever as the world endures the COVID-19 global pandemic.[6–8] This outbreak has presented the medical community with a sweeping number of challenges. Many mental healthcare systems did not have the infrastructural resources required to adequately cope with the exponentially evolving impact of COVID-19.[9] The pandemic has negatively impacted mental health around the globe by elevating rates of depression, anxiety, post-traumatic stress disorder, and negative societal behaviors.[10–12] Additionally, the adverse effects of COVID-19 on the mental health of affected communities, including healthcare workers, quickly started to compromise the general medical response.[13–15] With physical distancing, increased patients' reluctance to present to healthcare settings, and decreased staffing levels due to necessary self-isolation, telepsychiatry arose to meet the demand for mental health services.[3,16,17]

Governments, organizations, and scientists urged for the advancement of psychiatric care during the outbreak.[18,19] However, in many affected countries, the availability of mental health professionals does not meet the continuous growth in demand.[20] For instance, in the Arab world, mental health expenditure as a percentage of total health expenditure is not available for most countries. Six out of 20 countries do not have mental health legislation, whereas two do not have a mental health policy. Alternatively, seven countries (Iraq, Libya, Morocco, Somalia, Sudan, Syria, and Yemen) have less than 0.5 psychiatrists per 100,000 population.[21] Keeping this in mind, and in the context of growing healthcare demands and a need to maintain physical distance, an assessment of the status of telepsychiatry in this part of the world becomes necessary. Hence, in this study, we review the state of telepsychiatry in a selected group of Arab countries of the Middle East and North Africa (MENA) region. We discuss the evolution of digital mental health before and during the COVID-19 pandemic and highlight the hurdles encountered during the process.

Materials and Methods

We invited twelve early-career psychiatrists from different Arab countries of the MENA region to share information related to telepsychiatry in their respective nations before and during the COVID-19 pandemic. We elected for early-career rather than mid-career or late-career psychiatrists as the former tend to be the most informed and updated about modern technology and remote medical care.[22] Besides,

early-career psychiatrists, as torchbearers of the future of the field,[23] would provide a fresh perspective about the use of telepsychiatry in this part of the world.

Each author provided data about telepsychiatry services available in their countries, with emphasis on the evolution of these services, if applicable, during the pandemic. For the sake of this study, telepsychiatry services of interest encompassed synchronous and asynchronous technologies, including video-based services, phone call options, and electronic messaging services. The information was collected using a semi-structured guide (Supplementary Appendix). All team members carried out their search using the governmental ministry of health websites of their respective nations, along with local, regional, and international electronic newspapers, magazines, and social media outlets discussing the topic of telepsychiatry.

To complement this search, the authors checked different search engines (PubMed, Medline, Scopus, Embase, and PsycInfo), from inception until June 16, 2020, for references about telepsychiatry and telemental health in the Arab countries of the MENA region. Particular focus was directed towards articles addressing the use and impact of digital mental health during the COVID-19 pandemic. Terms used in the search included "COVID-19", "coronavirus", "SARS-COV-2", "telepsychiatry", "telemental", "digital mental health", "Arab world", and "Middle East and North Africa region". We reviewed relevant references for the articles of interest and only included those published in English.

Discussion between the authors of the manuscript occurred via email. Ethical permission was not sought as there was no direct involvement of human participants, and data used were already available in the public domain.

Results
Telepsychiatry Services Before COVID-19

Telepsychiatry services have been present prior to the COVID-19 pandemic in most Arab countries of interest (Table 1).[24–40] The services, available via governmental, non-governmental, or private institutions, mainly involve phoneline call centers and messaging services. Less frequently, hotlines designed for mental health and video conferences have been established. Shezlong, an Egyptian-based platform, started to offer online therapy in the MENA region via video visits since 2014.[41] Only two

countries, the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA), have telepsychiatry legislation. In the UAE, the Health Authority Abu Dhabi implemented a general telemedicine regime in Abu Dhabi as early as 2013.[42] Alternatively, KSA is the only country where online training courses in digital mental health are provided for healthcare workers.

Despite being available and used, the field of telepsychiatry in the Arab countries of the MENA region has been struggling with many challenges. Three mains themes of patient-related, healthcare-related, and system-related barriers emanated from our analysis. First of all, patients commonly find consultations without seeing a doctor as a challenging concept. Some countries suffer from a high level of illiteracy, such as in Sudan where it reached 60.7% in 2018,[43] limiting the ability to implement telepsychiatry. Those who are educated and comfortable with digital care might still suffer from technological illiteracy, with limited knowledge about the use of different platforms or unfamiliarity with payment processes. Many also would be concerned about their privacy and confidentiality while using online resources, limiting their acceptance of this method of healthcare. In terms of healthcare-related barriers, one common pitfall is digital illiteracy and the lack of appropriate training for the use of digital mental health. Another barrier is the general lack and limited access to mental health services.[21,44,45] Lastly, system-related limitations include bureaucratic and organizational difficulties. For instance, in countries that have fallen within political and socioeconomic turmoil, such as Lebanon, Libya, Sudan, and Syria, telepsychiatry has been hindered by poor infrastructure, including the lack of stable electricity and the absence of accessible internet. These limitations are more commonly observed in remote and rural areas. This comes on top of a lack of adequate sustainable funding and adequate financial resources in the Arab healthcare system to implement, operate, and maintain telemedicine in general.

Telepsychiatry Services During COVID-19

Since the COVID-19 outbreak, the concept of telepsychiatry has become more familiar and accessible in the Arab world (Table 2).[33,46–51] For instance, in KSA, most clinics switched to virtual visits, either via phone consultations or video conferencing. Similarly, in Jordan, digital mental health has evolved so rapidly that it became the preferred

method of consultation to confirm with social distancing rules. As one private clinic shifted all their services into online ones, the largest private psychiatric hospital in the country launched a promotional campaign encouraging the transition to digital platforms.[52] In addition, the Jordanian Psychiatrists Association initiated a phone-based hotline for psychological support during the quarantine that served more than 270 cases within one month.[53] Likewise, a psychiatry department at a tertiary care center in Lebanon became a leading model for telepsychiatry in the country.[54] The "Syndicat National Algerien Des Psychologues", alternatively, announced the release of a new hotline for psychological support during the pandemic, and many services, including psychiatry, switched to online platforms.[55,56] In Egypt, telepsychiatry services expanded to include the private sector, non-governmental organizations such as the Egyptian Red Crescent, and governmental organizations, through the General Secretariat of Mental Health and Addiction Treatment. The latter has been offering digital mental health services via social media booths, online training, and a dedicated 24-hour hotline.[57] In addition, the Shezlong platform has raised new investments to expand its services.[58]

Alternatively, besides the UAE and KSA, only Egypt started to offer telepsychiatry training for healthcare workers. Despite that, a wide majority of interventions has been offered, mostly to psychiatric patients. Fewer targeted the general population, COVID-19 patients, healthcare workers, and vulnerable subgroups. These services were easily accepted among patients and mostly received positive feedback, despite the re-emergence of the previously described pitfalls.

Discussion

The role of telepsychiatry is now more important than it ever was.[7,8] The evidence to support the effectiveness of telepsychiatry is fairly diverse, especially for depression, anxiety, and trauma-related disorders.[59–61] Different forms of digital mental health platforms were found to be effective for the delivery of services, including videoconferencing, smartphone applications, text messaging, electronic mails, and online forums.[62–66] After the COVID-19 pandemic, a drastic shift from outpatient activities and liaison psychiatry to telepsychiatry has occurred, and a call for the implementation of digital mental health has been widely encouraged.[9,20,67] China led this movement as the nation started to actively provide telepsychiatry services for the general population and those at risk of exposure to COVID-19.[68] Along the same lines, the Australian

Table 1 Table Summarizing the Characteristics of the Telepsychiatry Services Before the COVID-19 Pandemic in Each of the Represented Arab Countries of the Middle East and North Africa

Country	Population (Million)	World Bank Classification	Mental Health Act	Telepsychiatry Availability	Telepsychiatry Tools	Legislation	Training
Algeria	43,900,000	High income	Yes	Yes: Governmental and non-governmental	• Video conferencing • Phoneline calls • Governmental hotline	No	No
Egypt	102,211,027	Lower middle income	Yes	Yes: Non-governmental	• Video conferencing • Governmental hotline	No	No
Jordan	10,554,000	Upper middle income	No	Yes: Non-governmental (for Syrian refugees)	• Video conferencing • Phoneline calls • Governmental hotline (suicide prevention)	No	No
Kingdom of Saudi Arabia	32,612,641	High income	Yes	Yes: Governmental and non-governmental	• Phoneline calls • Messaging services • Governmental hotline • Non-governmental hotline	Yes	Yes
Lebanon	6,800,000	Upper middle income	No	Yes: Non-governmental	• Video conferencing • Phoneline calls • Non-governmental hotline (suicide prevention)	No	No
Libya	6,849,446	Upper middle Income	Yes	Yes: Private	• Phoneline calls • Messaging services • Non-governmental hotline	No	No
Oman	4,974,986	High income	No	Yes: Non-governmental	• Phoneline calls • Messaging services	No	No
Qatar	2,807,805	High income	Yes	No	• Video conferencing • Phoneline calls • Governmental hotline	No	No
Sudan	43,772,449	Lower Middle income	No	Yes: Non-governmental	• Phoneline calls • Messaging services	No	No
Syria	16,906,000	Low income	No	Yes: Non-governmental and private	• Phoneline calls • Messaging services	No	No
Tunisia	11,565,204	Low middle income	Yes	Yes: Private	• Phoneline calls • Governmental hotline (women and children psychological support)	No	No
United Arab Emirates	9,890,000	High income	Yes	Yes: Governmental and non-governmental	• Video conferencing • Phoneline calls • Governmental hotline	Yes	No

Government has responded to the pandemic by increasing the funding for telepsychiatry services, including telehealth consultations with general practitioners and specialists.[69]

The same has been applied, to a much-limited extent, in the Arab world, with many pitfalls that have been dragging for a while, even prior to the pandemic. For

instance, psychiatric services, previously confined to few large mental health hospitals, have been gradually replaced by inpatient and outpatient facilities in general hospitals.[21] Training programs in mental health at the primary health-care level have also started in many of the Arab countries.[70] Despite this movement towards the integration of mental health in the general care delivery system, the implementation remains limited and the mental health infrastructure and services grossly insufficient.[21]

When it comes to telepsychiatry in the Arab world, the field seems to be in its early phases of development.[71] Even though some Arab countries have a more advanced teleme-dicine profile, others still fail to meet basic healthcare requirements. In the first pitch of nations, KSA has been employing health telematics as early as of 1993, with a remarkable success that persuaded the Ministry of Health to create a national electronic healthcare system which links more than 25 hospitals in major cities and vital rural areas.[72] Telehealth has also been successfully implemented in KSA during the COVID-19 outbreak.[73] In the opposite pitch, the healthcare system in Iraq has been struggling with an increased burden on resources, which frequently impedes patients' access to healthcare. Electronic information sharing among hospitals remains, as such, very limited.[74] Even though Oman has some telemedicine services and a prototype for remote healthcare monitoring was recently suggested, these services remain limited to a few hospitals and specialties and do not adequately tackle telepsychiatry.[75] In Syria, poor technological infrastructure remains the main problem in the application of telemedicine in general, and telepsychiatry more specifically. Indeed, Syria has the poor-est network infrastructure among the Eastern Mediterranean countries, along with a high cost of internet access and poor internet security.[74] Despite these limitations, telepsychiatry has been proposed as a potential modality to help bridge the mental health needs gap in Syria.[76] The use of telepsychiatry as a temporary and cost-effective service for the growing mental healthcare needs of Syrians was proposed amidst the rising challenges[29] and different platforms have been offered and provided, along with clinical training to healthcare providers in the Syrian humanitarian conflict setting.[77] Lastly, a recent systematic review on the feasibility of elec-tronic mental health applications among Syrian refugees and other vulnerable Arab populations noted a positive impact of these applications on the access to services and treatment outcomes. It also revealed a paucity of literature about the topic in the Arab region.[78]

Our results also pinpoint many limits for telepsychiatry that seem multifactorial in nature. Jefee-Bahloul discusses four similar barriers to implement telemental health in the Middle East: cultural (both patient- and healthcare-related), and technical, financial, and regulatory (system-related).[79] On patient- and healthcare-related barriers, a recent systematic review of 134 studies about telepsy-chiatry identified that patients and providers are generally satisfied with digital mental health services. The evidence also suggests that telepsychiatry is at least comparable to face-to-face services in terms of reliability of clinical assessments and treatment outcomes.[4] A remote interdis-ciplinary approach that involves psychiatrists, psycholo-gists, and social workers, is the most effective in preventing undesirable outcomes.[80] An important element to keep in mind is the cultural facet of the Arab world, where religion and gender considerations may play a substantial role in the delivery of digital services.[79] However, the limited data in this part of the world seems to be worthwhile. In a sample of Syrian refugees suffering from post-traumatic stress disorder, about half were open to receive telepsychiatry care.[81] In another study, attitudes toward telemental health were assessed in a group of Syrian healthcare providers. Even though the majority had no experience with telepsychiatry, half believed that mental healthcare can be provided through digital platforms.[82] Overcoming sociocultural barriers requires a comprehensive strategy that targets both receiving ends, with appropriate training for providers and suitable exposure for patients. For mental health professionals with limited technological literacy, the American Psychiatric Association provides a telepsychiatry toolkit for guidance.[83]

On the other hand, system-related barriers, as Jefee-Bahloul described, encompass a combination of technical, legal, and financial challenges.[79] Tackling these compo-nents requires the combined efforts of multiple stake-holders, including local governments and investors, while keeping in mind that telepsychiatry is more cost-effective than face-to-face delivery of mental health services.[4] Inpatient and outpatient clinics should explore repurposing existing workstations to become more friendly for the usage of digital platforms.[84] Alternatively, healthcare sys-tems and policymakers have to set up programs based on the existing and effective remote collaborative care models.[85] Finally, one significant challenge that arose in the rapid need for tele-deployment during the pandemic has been prescribing practices. In Lebanon, with the

Table 2 Table Summarizing the Characteristics of the Telepsychiatry Services Generated During the COVID-19 Pandemic in Each of the Represented Arab Countries of the Middle East and North Africa

Country	First COVID-19 Case	Tele-Psychiatry Use	Mostly Used Platforms	Official Hotline for Psychological Support	Social Media as a Tool	Target Population	Official Training
Algeria	February 25, 2020	Yes	Video conferencing, messaging services	Yes: Governmental	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers	No
Egypt	February 14, 2020	Yes	Video conferencing, messaging services	Yes: Governmental and non-governmental	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers	Yes
Jordan	March 2, 2020	Yes	Video conferencing	Yes: Governmental (suicide prevention)	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers	No
Kingdom of Saudi Arabia	March 2, 2020	Yes	Phoneline calls, messaging services	Yes: Governmental and non-governmental	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers • Vulnerable populations	Yes
Lebanon	February 21, 2020	Yes	Video conferencing, phoneline calls	Yes: Non-governmental (suicide prevention)	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers • Vulnerable populations	No

(Continued)

Table 2 (Continued).

Country	First COVID-19 Case	Tele-Psychiatry Use	Mostly Used Platforms	Official Hotline for Psychological Support	Social Media as a Tool	Target Population	Official Training
Libya	March 24, 2020	Yes	Phoneline calls, messaging services	Yes: Governmental and non-governmental	Yes	• Psychiatric patients • General population	No
Oman	February 24, 2020	Yes	Phoneline calls, messaging services	Yes: Governmental	Yes	• COVID-19 patients • General population • Healthcare workers • Vulnerable populations	No
Qatar	February 27, 2020	Yes	Video conferencing	Yes: Governmental	Yes	• Psychiatric patients • COVID-19 patients • General population • Healthcare workers	No
Sudan	March 13, 2020	Yes	Messaging services	No	Yes	• Psychiatric patients • COVID-19 patients • Healthcare workers	No
Syria	March 23, 2020	Yes	Messaging services	No	Yes	• Psychiatric patients	No
Tunisia	March 2, 2020	Yes	Phoneline calls	Yes: Governmental (psychological support unit)	Yes	• Psychiatric patients • General population	No
United Arab Emirates	January 29, 2020	Yes	Video conferencing, phoneline calls	Yes: Governmental	Yes	• Psychiatric patients • COVID-19 patients • General population	Yes

absence of a centralized electronic healthcare system, both the Lebanese Orders of Physicians and Pharmacists issued a temporary circular urging providers and covering parties to use and accept electronic modalities for prescriptions during the outbreak, although concerns about potential lack of regulation have been plenty.[86]

Taking these challenges into consideration, Table 3 provides a list of recommendations to improve telepsychiatry

Table 3 List of Recommendations to Improve Telepsychiatry Services in the Arab World

Patient-Related	Raising awareness and educating the public about the availability, importance, and efficacy of telepsychiatry services.
	Providing basic training for candidate patients about the use of different digital platforms when seeking professional help.
	Establishing regulations and protocols that ensure privacy, confidentiality, and legal responsibility towards patients.
Healthcare-related	Ensuring appropriate training for mental health professionals about the use and application of telepsychiatry services.
	Providing a telepsychiatry course as part of every psychiatry residency training program.
	Recognizing the role of early-career psychiatrists in advocating for telepsychiatry and in organizing training sessions to facilitate the implementation of services.
System-related	Allocating specific funding for telemental health, directed towards improving infrastructure, particularly in terms of availability of fast and efficient internet and appropriate cellular network coverage.
	Establishing a national legislation for telepsychiatry services that caters for the needs and rights of both patients and professionals.
	Creating audits and quality improvement projects to improve services, tackle challenges, and optimize cost-effectiveness.

services in the Arab world. These recommendations, derived from the identified barriers, try to tackle the different patient, healthcare, and system-related deficiencies. As early-career psychiatrists, our role is of relevance.[22,87] With our adequate exposure to technology and our level of comfort with digital platforms, we have a duty to vouch for telepsychiatry services and always offer them, whenever applicable, as a treatment option.[22]

Our study has several limitations. First, data about telepsychiatry services in the different Arab countries was collected qualitatively via a semi-structured interview. Some nations were also not represented in the analysis. However, the heterogeneity between the countries from which the Arab early-career psychiatrists came strengthened the value of the collected information and would allow its applicability to the MENA region in general. Alternatively, cultural barriers of telepsychiatry that might include gender sensitivity, religion, and other societal norms of the Arab society were not fully assessed. Further studies would benefit from structured cross-sectional surveys that explore the perceptions and attitudes of patients and mental health professionals towards implementing telepsychiatry while taking into consideration socio-cultural challenges, among others.

Conclusion
Critical shortfalls in mental health services in the Arab countries of the MENA region present a challenge for mental healthcare during the COVID-19 pandemic. The increasing demands on already overburdened psychiatric

services might risk creating a public mental health crisis. As efficient, affordable, and attainable solutions cannot only rely on training and recruiting more psychiatrists, telepsychiatry would help meet the exceeding demands. This would, nevertheless, require the joint efforts of a range of stakeholders, including policymakers as, to our knowledge, no specific telemental health guidelines have been previously developed in the Arab world. Advocacy for digital mental health should also extend to mental health professionals and the general body of medicine. As the world moves through this crisis, the Arab nations should do their best to implement the much-needed telepsychiatry interventions and maintain these services into the future. More studies are also required to understand the socio-cultural barriers limiting the use of digital mental health in this part of the world.

Disclosure
The authors report no conflicts of interest in this work.

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