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Tele-mental health application in response to COVID-19 pandemic: Experience at Irrua Specialist Teaching Hospital, Irrua, Nigeria

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Abstract

The coronavirus disease-2019 (COVID-19) declared a pandemic by the World Health Organization (WHO) is rapidly engulfing the world. It is highly contagious with significant morbidity and mortality which has impacted health systems and the economy of nations. As people across the world struggle with the difficulties of isolation, social distancing, disruptions in social services and the rapid increase in the number of COVID-19 cases, concerns about maintaining good mental health have emerged. Mental health challenges are a major source of distress and suffering and if unattended could pose management problems which will likely result in a significant increase in morbidity and mortality. Considering the constraints in delivering mental health care during the pandemic, the use of technological innovations in mental health has gained significant attention in recent times. The uses, effectiveness and benefits of tele-mental health have been well established. In this report, we present our experience in using tele-mental health to provide mental health and psychosocial support for patients with COVID-19 at the Irrua Specialist Teaching Hospital, Irrua Nigeria. Empirical findings revealed that persons infected with COVID-19 who received such care had good outcomes. We therefore recommend that other health care institutions providing treatment for persons with COVID-19, replicate these practices in order to facilitate better health outcomes for persons with COVID-19.

Keywords: COVID-19 pandemic, Tele-mental health, health outcomes, Nigeria

Introduction

The Corona Virus Disease 2019 (COVID-19), described as a pandemic by World Health Organization (WHO) [1], is very contagious with significant morbidity and mortality. The literature identifies that pandemics of this magnitude are fundamentally accompanied by an increase in the rates of depression, anxiety and several other mental health problems at different levels; individual, family and community [2,3].

Certain factors may account for the over-representation of psychological morbidities during periods of disaster and pandemics of this magnitude. Some possible reasons for such psychological impact include; emotional reactions to the illness, which may be triggered by fear, stigma and misinformation about a pandemic that is not fully understood and its possible outcomes. Isolated persons with COVID-19 are separated from their loved ones who are unable to be with them as they suffer or die. Also, the adverse effects of some medications, the effects of inflammatory mediators and having a co-morbid medical condition may likely precipitate mental disorders [3–5].

Mental health challenges are a major source of distress and suffering and if unattended could pose management problems which will likely result in significant increase in morbidity, longer illness

duration, poorer health outcomes and a higher cost/burden on the already scarce health resources and health care system [3,6,7]. Psychological distress has also been reported to suppress natural immune defenses that should otherwise help combat the disease [5].

Some persons may experience intense emotional reactions when diagnosed with COVID-19 and display shock, denial and anger which may discourage acceptance of recommended isolation and treatment. Such maladaptive reactions can be counterproductive, thus aiding the spread of the disease if not appropriately and professionally handled.

Unfortunately, the mental health aspects of diseases may be sometimes neglected. It is essential for persons with COVID-19 to be evaluated for mental health challenges and offered appropriate interventions to improve their mental health and overall outcome. To achieve this, mental health services should be available and accessible, people should be informed about the way to access these services. Because face-to-face appointments have the risk of transmission of COVID-19 to health workers and depleting personal protective equipment that is in dire shortage, tele-health has now emerged as an important alternative during this pandemic [8].

Tele-mental health: uses, effectiveness and benefits

Tele-health or telemedicine connotes utilizing telecommunication to make available health information and services across a physical distance [9]. Tele-mental health, is a subcategory of telemedicine that entails the use of health information technology to provide mental health care to specific populations in situations regarding challenges with access to care [9]. These use of technological innovations in mental health has gained significant attention in recent times, especially with the ongoing COVID-19 pandemic [10]. Remarkably, it can be utilized to offer a broad range of mental health services including mental health assessments, provision of information to patients, training of caregivers, treatment monitoring and psychological therapies [9,11]. Research evidence demonstrates the effectiveness of Tele-mental health among persons with mental health problems, given that psychotherapy provided via Tele-mental-health has demonstrated efficacy in reducing pain, disability, depression, and anxiety comparable to traditional face-to-face encounters and without significant risks or adverse effects [12]. Interestingly, high acceptability has been reported among service users and mental health care professionals [9].

Several benefits can be derived from telephone-based mental health services; firstly, they are convenient and accessible methods of meeting the essential mental health requirements of persons with psychological distress [9]. Secondly, they reduce stigma, delays in seeking care and deliver mental health care at the patient's location. Furthermore, with tele-mental health there is increased access to highly specialized mental health care services by persons in remote and difficult to reach areas [9]. In view of the current pandemic and the high risk of transmission of COVID-19 from patients to health care professionals (HCPs) [13], Tele-mental health care will reduce the number of HCPs exposed to the virus. This has the benefit of making manpower resources more available at a time when health care systems are challenged by overwhelming workload. Note-worthy is the fact that these services do not replace the need for on-site (face-to-face) interventions when the need arises. In other words, in very severe situations Tele-mental health services then serve as an adjunctive measure.

Tele-mental health services in Nigeria: The challenges

Despite the numerous gains of Tele-mental health, studies show that it is under-developed and under-utilized in developing countries like Nigeria, where there is already a huge gap in mental health services [14,15]. Presently, there are no existing protocols or guidelines for the delivery of Tele-mental health services in the country.[14]. Specifically, there is no current protocol for Tele-mental health practice for patients with COVID-19 in Nigeria. Furthermore, awareness of the possible benefits of Tele-mental health services is quite poor amongst service users. Also, acceptability amongst consumers has not been studied in Nigeria.

The Irrua Specialist Teaching Hospital's Experience

At the onset of the COVID-19 pandemic in Nigeria, the Irrua Specialist Teaching Hospital set up a psychosocial support team of mental health professionals. The team developed a Standard Operating Protocol (SOP) for tele-mental health services for patients with COVID-19 (Table 1) to evaluate, offer supportive psychotherapy, provide cognitive restructuring as appropriate. foster liaison with the primary managing physicians, and prescribe and monitor medications for persons with COVID-19 at the hospital's COVID-19 isolation center. In addition, we developed pamphlets which served as psychoeducational materials for all persons who tested positive for COVID-19, their caregivers and other health care professionals. We distributed both hard and soft copies of the pamphlets, were

applicable, to everyone who was likely to benefit from the concise presentation of coping strategies presented on the pamphlet. As at the time of writing this paper, a total of 416 patients were attended to in our facility (249 home-based care and 167 in-patient admissions at the isolation ward).

Table 1: Standard Operating Protocol (SOP) for tele-mental health services for patients with COVID-19 at the Irrua Specialist Teaching Hospital

Steps	Description
1 (Preamble)	• Managing physician discusses with patient the need for psychosocial support within 24 hours of admission. • Managing physician informs psychosocial support team leader of the arrival of a new patient • Supplies details of new patient to psychosocial support team leader
2 (Evaluation)	• Psychosocial support team leader assigns patient to a team member. • Team member calls patient for evaluation using the ICD-10 criteria for: a. Anxiety disorders i. Phobia including thanatophobia (fear of death) ii. Panic attack/disorder iii. Generalized Anxiety Disorder (GAD) b. Depression c. Intense Emotional reaction. d. Confusion/Psychotic disorders e. Acute stress reaction f. Adjustment disorders g. Psychosis Not Otherwise Specified (PNOS) h. Sleep Disorders
3 (Intervention)	• Offer supportive psychotherapy and cognitive restructuring to all patients as appropriate. • Use medication if necessary via liaison with the primary managing physician. • Make arrangement for face-to-face appointment with patient if it becomes necessary. • Identify social problems or issues and refer appropriately to team expert on social issues • Educate patient on coping strategies in isolation and give pamphlet (Figure I) • Ask about primary caregiver/relative which the team can talk to • Give details of primary caregiver to team expert on social issues **General Supportive Measures for Patients/Relatives** • Every patient benefitand should have need based supportive psychotherapy on a continuous basis. **Steps in Supportive Psychotherapy:** • Establish a therapeutic relationship • Active empathic Listening • Reassurance and Encouragement • Give hope tempered with reality • Psycho-education: awareness of the illness, symptoms, cause of the illness, course of the illness, treatment, prognosis at the level the patient can comprehend. • Find out about worries and offer counselling and reassurance • Identify problems and solve them as much as possible • Encourage recreational activities and communication with friends and family **Cognitive Restructuring** • Cognition is appraisals of events • Ask the patient about thoughts, ideas and images in their head and elicit and use Socratic questioning to correct errors in cognition **Common types of error in cognition (the list is not exhaustive)** • Selective abstraction: “drawing conclusion only on part of information e.g. my entire family is ruined because I have COVID-19” • Drawing unjustified conclusion e.g. “everybody who has COVID-19 dies” • All or nothing thinking e.g. “I know I am going to die” • Magnification/minimization e.g. “I always get into trouble” • Disqualifying positives: “my temperature only crashed by chance” • Personalization: “it was all my fault I got infected” • Catastrophic thinking “I will never be able to face my friends and colleagues again, they will all discriminate against me.” • Emotional reasoning e.g. I feel unhappy, it must be a bad sign and I don’t think I am surviving.

Table 1: SOP for tele-mental health services for patients with COVID-19 at the Irrua Specialist Teaching Hospital**(continued)**

Steps	Description
4 (Support for primary caregiver)	• Details of primary caregiver given to team expert on social issues • Team expert on social issues calls primary care giver and offers supportive psychotherapy as above. • Team expert on social issues gives tips on preventive measures as follows: i. Regularly and thoroughly wash your hands with soap and water or clean them with an alcohol-based sanitizer. ii. Clean surfaces you touch frequently with alcohol-based sanitizer or soup and water iii. Maintain at least 1 meter (3 feet) distance between yourself and others iv. Avoid touching eyes, nose and mouth. v. Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately. vi. If you have a fever, cough or difficulty breathing, seek medical attention and call in advance the hotlines provided by the team. vii. Avoid traveling to places during this period of COVID-19 outbreak and wear a facemask if you have to leave the house.
5 (Meeting)	• Team members meet regularly at least thrice a week to discuss cases and issues as they arise. • Follow-up patient regularly until discharge and after discharge for 4 weeks.

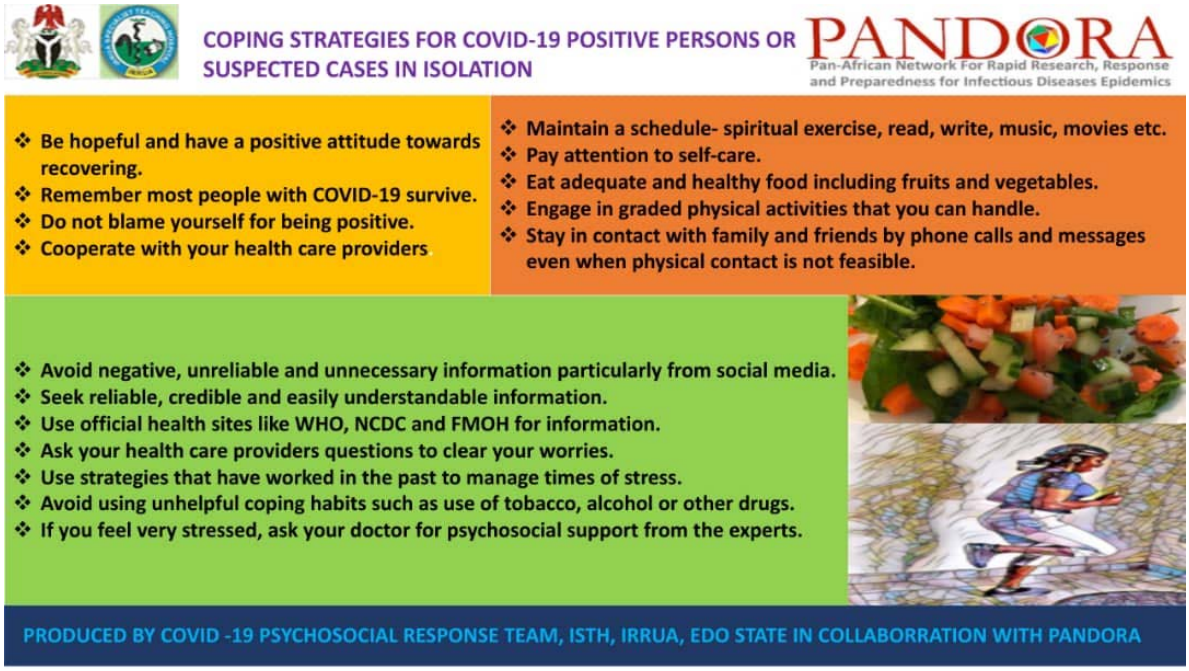

Figure I: Psychoeducational pamphlet providing coping strategies for persons with COVID-19

Case Scenario for cognitive restructuring using tele-mental health services

Mr. G. O., a 29 year old male tested positive for COVID-19 and was admitted at the isolation centre of Irrua Specialist Teaching Hospital, Irrua. He had mild symptoms but was extremely worried and breathless. The psychosocial support team was called to review and offer mental health and psychosocial support via Tele-mental health services.

After introduction, exchange of pleasantries and abrief history

Dr: How are you?

Mr. G.O.: I am not fine, I am very afraid and breathless.

Dr: Okay, are you on oxygen?

Mr. G.O.: No

Dr: Why?

Mr. G.O.: Because my doctor said my oxygen saturation is perfect. He said it is 98%

Dr: Which started first: the fear or the breathlessness?

Mr.: The fear of course. I have been so afraid since I tested positive and I fear I might die.

Dr: I can understand that you are afraid but why do you think you are going to die?

Mr. G.O.: Because I have coronavirus.

Dr: Have you seen anyone with coronavirus especially among your age group?

Mr. G.O.: I have seen some

Dr: How many of them died?

Mr. G.O.: I haven't seen any of my age group who died because of coronavirus.

Dr: Good, but have you heard of people dying because of coronavirus?

Mr. G.O.: Yes, mainly elderly persons.

Dr: Do you know why they died?

Mr. G.O.: They died because they had coronavirus.

Dr: So do people die just because they have coronavirus or because the virus makes them sick and develop complications?

Mr. G.O.: You know I am a medical personnel. People die because they are sick and have complications, especially those who have co-morbidities like hypertension and diabetics.

Dr: What complications or co-morbidities do you have?

Mr. G.O.: I am breathless now, otherwise I didn't really have symptoms apart from cough and catarrh and I have no co-morbidities.

Dr: I am happy you are a medical personnel. Do people who are breathless have oxygen saturation of 98%?

Mr. G.O.: No, 98% oxygen saturation will not result in breathlessness.

Dr: Can people become breathless because they are very anxious?

Mr. G.O.: Yes, I have seen some cases of panic

Dr: So do you think your breathlessness is because you are afraid you might die or because your lungs are affected by the virus?

Mr. G.O.: Since my saturation is good, I believe is because I am afraid I might die.

Dr: So, why do you think you might die?

Mr. G.O.: (Laughing), I am actually asking myself that question now, I don't see what is going to kill me. I am not going to die. I wasn't thinking straight, I was just too afraid. Thank you very much doctor.

Dr: How do you feel now?

Mr. G.O.: I feel better already

He was then given supportive psychotherapy and educated on breathing exercises.

He was called 48hrs later;

Dr: How are you today?

Mr. G.O.: Thank you my doctor. God bless you for the session you had with me two days ago, I am fine now.

Outcome

Empirical findings revealed high acceptability and favorable outcomes amongst persons infected with COVID-19 who received such care. Anecdotal observations showed that tele-mental health application remarkably improved anxiety and other emotionally distressing symptoms in patients with COVID-19 at the isolation center and their primary caregivers, as well as patients with COVID-19 who received home care (self-isolation at home). We also observed that tele-mental health services facilitated continuous and need based access to mental health professionals, thus providing an adequate means for persons with COVID-19 to express concerns and release emotions (catharsis).

Challenges encountered

We encountered some technological challenges such as poor or failed network connections for a few patients with COVID-19 receiving home-ased care. The implementation of Tele-mental health services also presented a few challenges for us as professionals, including optimizing home workspaces, as well as balancing precious time and mental energy between multiple priorities.

Implications for future research

It will be important to attempt to corroborate these early clinical observations through more systematic

studies in the future.More research is required to compare outcomes for face-to-face versus remote care, especially as related to specific conditions, which may be more challenging to manage adequately through virtual care.

Conclusion

Although Tele-mental health is poorly developed and highly under-utilized in developing countries like Nigeria. Periods of pandemics of this nature, represent a call for urgent action especially with regards to the mental health needs of the population. The experience at the Irrua Specialist Teaching Hospital suggest that Tele-mental health can provide the right medium to deliver timely interventions during crucial circumstances such as the ongoing COVID-19 pandemic.

Recommendations

We encourage that other health care institutions providing treatment for persons with COVID-19, replicate these practices in orderto facilitate better health outcomes for persons with COVID-19. Also, it is imperative that persons suspected to be infected with COVID-19, those who test positive for the virus and their immediate family members, receive early intervention and prompt treatment for psychological distress and/or disorders. In addition, health care professionals should have ongoing psychosocial support and interventions to help mitigate the psychological distress that accompany working under pressure, given the current pandemic situation. Tele-mental health services will likely provide the precise medium to deliver the required evaluation and interventions in a timely and effective manner.

It is recommended that relevant stakeholders develop policies on Tele-mental health to avoid potential consequences of untreated mental health challenges during this pandemic. Ministries of Health or other health authorities of various countries (developing countries in particular), can develop a protocol through experts in mental health and disseminate to various health institutions for use by mental health professionals.

List of abbreviations

COVID-19, Corona Virus Disease 2019.

Declarations

Ethics approval and consent to participate

Not provided

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

No conflict of interest associated with this work.

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Contribution of Authors

We declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. The views expressed in this report are not those of the funding body. PANDORA had no role in the design and writing of this report.

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