

TELEPSYCHOLOGY RESPONSE FOR MENTAL HEALTH CARE DURING PERIOD OF INFECTIOUS DISEASE PANDEMIC: A SYSTEMATIC REVIEW

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ABSTRACT

Given the surge in demand for mental health care and the huge gap in meeting this need, the idea of using technology-based psychotherapy and psychological services of telepsychology or automated expert systems for different sets of people during an epidemic or pandemic period is pivotal to the practice of mental health professionals, especially clinical psychologists. Stopping or reducing face-to-face psychological intervention because of the risks involved to the clients and clinicians during the pandemic outbreak can be handled by digital mental health facilities. Mental health care during the pandemic is essential because the individual and group panic about the possibility of being infected has serious implications for the mental health status of people. In a similar view, those that have psychological disorders co-occurring with infectious diseases are in high need of psychological intervention, while for some individuals, psychological disorders might have been present before they contacted the infectious diseases, whereas some might be infected with the disease before the onset of psychological disorders. The need to care for the mental health of infected populations and that of medical personnel and volunteers attending to infected populations can be attended to by applying evidence-based psychotherapy and psychological services through telepsychology/behavioural telehealth and automated expert system which have been established to be efficacious in treating mental distress conditions. Going digital with mental health care require urgent up scaling of skill sets and capacity of mental health care professionals to develop applications and to deliver services using digital facilities especially for African countries.

Keywords: *Telepsychology, Automated expert system, Infectious disease, Pandemic, Coronavirus, COVID-19*

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Introduction

During the outbreak of infectious disease, the task of carrying out mental health care services is usually challenged due to the preventive measures that are required standards to reduce the spread of infection and of interaction between the clinicians and their clients. The concept of rendering psychological services through technology usually referred to as “Telepsychology” (APA, 2013), has been explored for acceptability and efficacy in mental health care services on different psychological disorders among different populations, therefore, to improve access to treatment during period of emergency of psychological disorders that arose, or perpetuated due to outbreak of pandemic. As observed during the COVID-19 pandemic outbreak, application of telepsychology played a pivotal role in training of mental health professional and in attending to escalated mental health needs during that period of global wide spread of distress occurring due to danger to lives and livelihood (Yang, et al 2020).

Studies have established the negative impacts of anxiety, distress and other psychological disorders during different pandemics as documented especially for COVID-19 pandemic. These negative

impacts usually lead to increase in needs and demands for mental health care services (Zhenyu Li, et al., 2020; X. Jiang, et al., 2020; Yang et al., 2020). Telepsychology allows for the continuation of ongoing therapy or counseling sessions without interruption during periods of physical distancing or quarantine measures. It enables individuals to receive regular mental health support and interventions remotely, ensuring continuity of care (X. Jiang, et al., 2020; Liu, Yang, Zhang, et al., 2020). The World Health Organization (WHO) officially named the infection caused by the novel coronavirus as coronavirus disease 2019 (COVID-19) on February 12, 2020. And on March 11, 2020, Dr. Tedros declared it a "global pandemic", the Director-General of the World Health Organization. According to statistics from WHO website as of March 16, 2023 is as follows: confirmed cases stood at 760,360,956 around the world affecting about 216 countries, areas and territories, with 6,873,477 confirmed deaths (WHO, 2023), while Africa confirmed cases was 12,804,290 and 258,623 confirmed deaths; (Africa Centres for Control of Disease and Prevention). There are few guidelines for mental health practitioners on how to use digital mental health facility to reach out to people across the globe. Also, the capacity

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to exploit telepsychology or develop applications is deficient among the clinicians, therefore this paper sought to throw more insight to the efficacy of evidence based telepsychology/behavioural telehealth and automated expert system and their relevance during an outbreak of infectious disease pandemic as a means to

mitigate the surge in demand for mental health care (Greenbaum, 2020; Liu S, Yang L, Zhang C, et al. 2020; American Psychological Association [APA]2020a; APA, 2013). What are the telepsychology responses for mental health care during period of infectious disease pandemic?

METHOD

Design

Review of Literature, reports and perspectives that were written in English language was done in March 2020 and updated in May 2023 through databases, google scholar and google using the following keywords and index; coronavirus; COVID-19; coronavirus and psychological wellbeing; infectious disease and Mental health; COVID-19 and mental health; COVID-19 and psychological wellbeing; telepsychology; automated expert system. References of some of the articles and reports were also used to do additional search.

Eligibility criteria

Literature, reports and perspectives that focus on coronavirus, coronavirus and mental health, infectious disease and mental health, psychological wellbeing and literature on efficacy of telepsychology

were selected. Coronavirus disease popularly known as COVID-19 is defined as a respiratory infectious (communicable or contagious) diseases that can be transmitted easily from one person to the other and spread in a rapid swift round the community, nations, or the world.

Data Extraction

A tabulated table was designed to extract data, based on the focus and findings and conclusion of the literature, reports and perspectives.

Quality assessment

The strength of the included literature, reports and perspectives was weighed in line with norms of Risk of bias assessment tool of Cochrane, (Higgins, Alman, Gotzsche, Juni, Moher, Oxman, et al. 2011), they were evaluated on (1) credibility of the source; (2) adequacy of

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the information (3) professionalism of report.

Results

Literature Search Results

A total of 117 exclusive abstracts were identified by the literature search described above (97 from Google Scholar, 20 from Google Search); of these 100 were initially categorised for possible inclusion; 27 for exclusion, and 4 articles sought for retrieval, 2 of the reports was not retrieved, while 75 articles were assessed for eligibility, 29 articles were later excluded, therefore 46 articles were included in this systematic review. The level of agreement for studies excluded at this stage was

Discussion

Human to human transmission of coronavirus

The coronavirus spreads from person to person through respiratory droplets or contact with contaminated surfaces. This is known as human-to-human transmission. The primary method of coronavirus transmission is by respiratory droplets expelled during speaking, coughing, or sneezing. Those close may inhale these droplets and become infected. Additionally, a person can contract the virus by touching their own mouth, nose, or eyes after coming

moderate. A summary of the search and reasons for exclusion are detailed (Kindly see flow chart at appendix).

Study Characteristics

Transversely, the reviewed literatures, reports and perspectives on Coronavirus disease; Infectious; telepsychology and automated expert system; mental health and infectious disease; coronavirus and mental health. Different insights were present to indicate the different stressors of the pandemic of infectious disease especially coronavirus on mental health and the obstructions to possibility of face-to-face psychotherapy and other psychological services.

into contact with a surface infected with the virus (Chan, Yuan, Kok et al., 2020; Guan, Ni, Hu et al., 2020; Zhou, Yang, Wang, et al. 2020). Rothe, Schunk, Sothmann, et al. 2020; Guan, Ni, Hu Y, et al. 2020) In order to prevent human-to-human transmission and minimize secondary infection among close contacts and healthcare workers, effective COVID-19 prevention and control measures involve a variety of strategies, such as early detection, diagnosis, treatment, and isolation (World Health Organization Organization [WHO], 2020a,

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2020b). Some of the preventive measures of combating the spread of this infectious disease as used by different countries based on experts' advice are (1) Proper washing of hands with soap under a running water; (2) sanitise hands at a regular interval; (3) Social distancing, which is maintaining the distance of about six feet or 2 meters from other person and avoiding crowded places and group gathering; (4) Temperature screening of people at the point of entry into a building or into a country; (5) Quarantine for about 14 days which could be self-isolation or supervised isolation for travellers arriving from high risks area or country; (6) Lockdown or shutdown of high-risk cities or red zones are also been put in place to asked people to stay at home and do their transactions online; and (7) Travel ban and travel restrictions or flight restrictions are also enacted by different countries as a way of combating the spread across nations (APA, 2020c).

Infectious disease-induced mental disorders

Researchers and clinicians have observed that COVID-19 has adversely affected millions of people's physical health in addition to causing psychological stress or mental anguish, such as anxiety or tension brought on by the virus (Zhenyu Li, et al.,

2020). Numerous people have experienced psychological disorders as a result of the COVID-19 pandemic, which has had a significant influence on mental health. Here are a few mental health disorders linked to COVID-19. Depression and anxiety: Stress and anxiety levels have gone up as a result of the pandemic, and these factors have the potential to cause or worsen symptoms of depression and anxiety. According to Zhenyu Li et al. (2020), social isolation, uncertainty and dread of the virus, and the effects of the economy have all led to the emergence of these mental health issues of Post-Traumatic Stress Disorder (PTSD): Individuals who suffer from COVID-19 or who see a loved one get the virus and pass away may develop PTSD symptoms. The American Psychiatric Association [APA] 2020a lists avoidant behaviours, intrusive thoughts, flashbacks, and emotional numbness as some of these. Substance use disorders: As a coping mechanism for anxiety and depression, the pandemic has also contributed to a rise in substance use and abuse, including drug and alcohol misuse (Zhenyu Li, et al., 2020). Sleep disturbances: Disruption of daily life and increased stress can also lead to sleep disturbances such as insomnia or nightmares (Zhenyu Li et al., 2020). Obsessive-Compulsive Disorder (OCD):

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Fear of contracting a virus leads to increased OCD symptoms, such as excessive hand washing and cleaning (Zhenyu Li, et al., 2020). It is significant to bear in mind that the COVID-19 pandemic has an extensive impact on mental health and that different persons may have various mental health problems. To avoid long-term detrimental impacts on mental health, it is critical to identify and treat these mental health disorders as soon as possible. Psychotherapy, medicine, and lifestyle modifications like exercise and stress reduction methods are possible forms of treatment. In the event that you or anyone you know is dealing with pandemic-related mental health concerns, it's critical to get expert assistance. (American Psychiatric Association [APA] 2020a) and hospitalizations have increased in frequency and frequency (APA, 2020b; Abramson, 2020).

As reported on news channels across various cable network, some of the covid-19 stressors are the same globally while some are country specific, there are also general stressors to public and there are personal stressors. Some of the stressors across the world at this period of pandemic include: (1) fear of hacker threat because a lot of transactions are done online in the

face of the directives to stay at home and distance oneself from society issued by many federal governments; (2) fear of hunger crisis and obstruction to food production and supply chain in short and long term; (3) price hikes of essential commodities; (4) shortage in supply of hand sanitiser, tissue paper and other hygiene products; Lack of personal protective equipment (PPE) for the general public and healthcare staff in terms of both manufacturing and inventory; (6) fear of subpar PPE; (7) fear and uncertainty about what life after the pandemic will look like; (8) fear of possibility of second spark or wave of coronavirus; (9) fear of future pandemics; (10) loss of sources of income, loss of investment, pending obligations etc. While those that are peculiar to developing nations include (1) lack of adequate water supply or none available of portable water in some areas, (2) epileptic electricity supply (a) to facilitate been entertained at home via a cable network or television during the lockdown of cities, (b) lack of stable electricity to preserve their stocked perishable goods in the refrigeration and (b) lack constant of electricity to enable them to work from home.

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Telepsychology and automated expert system response

Applying psychotherapy and psychological services through evidence-based telepsychology and automated expert systems during infectious disease epidemics or pandemic outbreaks is an indispensable way to go and should be an integral component of the global response to this pandemic. Telepsychology or automated expert systems which consist of, existing and emerging internet-based, computer-based mobile device-based psychological interventions have been established to be efficacious in mental health care (Katenthaler, Parry, Beverley, and Ferriter, 2008; Reger and Gahm, 2009; Spel et al., 2007; Cavanagh and Shapiro, 2004). This could be used to reduce face-to-face psychotherapy during an infectious disease pandemic, thereby reducing the risk of spreading the disease (Liu, Yang, Zhang et al. 2020; X. Jiang et al. 2020). Psychology services through this medium which have accessibility and availability up to 24- hours daily is also a big plus in meeting the gap in mental health care (Marks, Shaw, and Parkin, 1998; Nadelson, 1987; Budman, 2000). The following categories of individuals in need of mental health care can benefit from telepsychology and automated expert system (1)

individuals with psychological disorders prior to the pandemic, This mode of psychological intervention will prevent break/stoppage of in treatment even for those under treatment prior to the outbreak; (2) individuals infected by contagious disease during the pandemic; (3) general population distressed by the outbreaks of infectious diseases pandemic; (4) medical professional and volunteers working during the pandemic and (5) leaders of various nations that have to take critical decisions under physical and psychological stressors also can benefit from this type of psychological intervention. Among the impact of this pandemic are disruption of lives and livelihood of people globally. Numerous individuals now face overwhelming uncertainty of their livelihood and in management of their daily lives, devastating uncertainty over their medical condition and that of their families, social isolation, financial stressors, and other issues. In the face of this pandemic and the turmoil it has caused, psychologist could offer psychotherapy and other psychological services by utilising technology of telepsychology and automated expert system so that persons who were overwhelmed with nervousness, a persistent unhappiness or other protracted responses which harmfully affect their

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productivity in their workplace or social interactions can have access to mental health care, that help people deal with extreme stress by finding constructive ways to manage adversity, in spite of the lockdown and shutdown (Clay, 2020; APA, 2020b). Going digital with mental health care also requires urgent upscaling of skill sets and capacity of mental health care professionals to develop applications and to deliver services using digital facilities. To achieve this, training of mental health professional have to integrate some basic understanding of big data, artificial intelligence, and machine learning

Confidentiality Concern

The general concern is on the level of confidentiality for data and information on digitised mental health care. To ensure the standard level of confidentiality required, policies and procedures to secure client/patient information online and offline should include using an encrypted device to protect stored or transmitted data or information. In addition, the use of passwords for hardware and software facilities is encouraged. Data and information should be secured by having a backup version. In case of a breach, clinicians are advised to notify their client/patient and appropriate authority

immediately (APA, 2013). Above all, to be abreast of the ethics of the profession, clinicians have to update their knowledge of the regulations of data protection and the use of electronic informed consent.

Conclusion

It has been established that the toll of pressure mounted on the entire public during the infectious disease pandemic, have significant implications for people's short- and long-term mental health needs as it affects their lives and their livelihood, dreams were cut short, love ones are being lost, therefore it is imperative that telepsychology or automated expert system mental health care, be integrated in mental health services and care for the individual in need of mental health care during infectious disease period. Evidence has pointed to the efficacy of telepsychology/Behavioural telehealth and automated expert systems as alternative mediums to render evidence-based psychological intervention or psychological services, especially during the outbreaks of infectious disease epidemics or pandemics like the coronavirus popularly called COVID-19. Consequently, mental health professionals, generally, and clinical psychologists specifically need to constantly develop

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their capacity to be able to optimise their service delivery outcomes through digital mental health facilities by continually updating and upscaling integrative strategies of psychological theories in treatment using knowledge of big data,

artificial intelligence, machine learning, globally and specifically for African countries that are lagging in this new frontier of the emerging standard of care service delivery platform

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REFERENCES

- American Psychiatric Association. (2020a). APA provides resources for responding to COVID-19, APA's Committee on Disaster Psychiatry and APA's International Committee on Psychiatry.
- American Psychiatric Association. (2020b). *Coronavirus and mental health: Taking care.*
- American Psychological Association. (2013). *A practical guide to telepsychology.* Joint working group to develop guidelines for telepsychology for psychologists. Washington, DC: Author.
- American Psychological Association. (2020a). *Keep your distance for safety.*
- American Psychological Association. (2020b). *Five ways to check your coronavirus coverage.*
- Abramson, (2020). Coronavirus threat fuels fear - American bias psychology association.
- Badman, S. H. (2000). Behavioral healthcare networks and beyond: Using computers as a medium communication on mental health and substance abuse treatment. *American Psychologist, 55*, 1290–1300.
- Bults, M., Beaujean, D. J., de Zwart, O., Kok, G., van Empelen, P., van Steenbergen, J. E., et al. (2011). Perceived risk, anxiety, and behavioral responses of the public in the early stages of the influenza A(H1N1) pandemic in the Netherlands: Results of three consecutive online surveys. *BMC Public Health, 11*(2).
- Kavanagh, K., & Shapiro, D. A. (2004). Computer therapy for common mental health problems. *Journal of Clinical Psychology, 60*, 239–251.
- Chen, J. F., Yuan, S., Kok, K. H., et al. (2020). A 2019-associated familial pneumonia cluster of a novel coronavirus indicating human-to-human transmission: A family cluster study. *Lancet, 395*, 514-523. Ministry of the Interior.
- Chen, H., Guo, J., Wang, Z., et al. (2020). Clinical features and intrauterine vertical transmission potential of COVID-19 among nine pregnant women: A retrospective analysis.

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Telepsychology response for mental health care during period of infectious disease pandemic: A systematic review.

Chinese Journal of Psychiatry, 53, E002.

Chinese Psychiatric Association. (2020). Expert consensus on management path and coping research on major and outbreak infectious diseases (new coronavirus pneumonia). *Chinese Journal of Psychiatry*, 53, E002.

Clay, A. (2020). Conducting research during the COVID-19 pandemic. USA Psychological Association.

Greenbaum, _ _ (2020). Psychologists lead innovative approach to address psychological loss COVID-19. *American Psychological Association*.

Guan, W. J., Ni, Z. Y., Hu, Y., et al. (2020). Clinical features of 2019 novel coronavirus infection in China. *medRxiv*. Published online on February 9, 2020.

Higgins, J. P. T., Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., et al. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomized trials. *British Medical Journal*, 343, d5928.

Iwata, K., Matsuda, Y., Sato, S., Furukawa, S., Watanabe, Y., Hatsuse, N., &

Ikebuchi, E. (2017). Effects of cognitive rehabilitation using computer software in patients with schizophrenia: A randomized controlled trial in Japan. *Journal of Psychiatric Rehabilitation*, 40(1), 4–11.

Jiang, F., Deng, L., Zhang, L., Cai, Y., Cheung, C. W., & Xia, Z. (2020). Clinical features of coronavirus disease 2019 (COVID-19). *Journal of General Internal Medicine*, 35(5), 1545–1549.

Kaltenthaler, E., Parry, G., Beverley, C., & Ferriter, M. (2008). Computerized cognitive behavioral therapy for depression: A systematic review. *British Journal of Psychiatry*, 193, 181–184.

Lam, T. T. Y., Shum, M. H. H., Zhu, H. C., et al. (2020). Identification of 2019-nCoV coronaviruses in Malayan pangolins in southern China. *bioRxiv*. Published online for the first time. 2020:2020.2002.2013.945485. Ministry of the Interior.

Li, Z., Ge, J., Yang, M., Feng, J. Q., Min, Q., Jiang, R., Yang, C., (2020). Collateral trauma to the public, member and non-member healthcare

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Telepsychology response for mental health care during period of infectious disease pandemic: A systematic review.

- teams helping to contain COVID-19. *Brain, Behavior and Immunity*.
- Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Hu, S., & Zhang, B. (2020). Online psychological health services in China during the COVID-19 outbreak. *Lancet Psychiatry*, 7(4), e17–e18.
- Lu, R., Zhao, X., Li, J., et al. (2020). Genomic characterization and epidemiology of novel coronavirus 2019: Implications for viral origin and receptor binding. *Lancet*, 30, S0140-6736(20)30251-8. Ministry of the Interior.
- Ma, N., & Ma, H., Li, L. (2020). Interpretation and analysis of the guiding principles of psychological crisis intervention for emergencies caused by novel coronavirus pneumonia. *Chinese Journal of Psychiatry*, 53, E001.
- Mak, I. W., Chu, C. M., Pan, P. C., Yiu, M. G., Ho, S. C., & Chan, V. L. (2010). Risk factors for chronic posttraumatic stress disorder (PTSD) in SARS survivors. *General Hospital Psychiatry*, 32(6), 590–598.
- Marks, I., & Shaw, R. (1998). Computer-assisted therapy for mental health problems. *Clinical Psychology: Science and Practice*, 5, 151–170.
- Murthy, S., Gomersall, C. D., & Fowler, R. A. (2020). Care of critically ill patients with COVID-19. *Journal of the American Medical Association*. Published online. doi: 10.1001/jama.2020.3633.
- Nadelson, T. (1987). Inhuman computer/too human psychotherapist. *American Journal of Psychotherapy*, 41, 489–498.
- Oxford University Press. (2010). *Oxford advanced learner's dictionary*. Oxford University Press, Oxford, UK.
- Reg, M. A., & Garm, G. A. (2009). A meta-analysis of the impact of the internet and computers on cognitive-behavioral based treatment of anxiety disorders. *Journal of Clinical Psychology*, 65, 53–75.
- Rothe, C., Schunk, M., Sothmann, P., et al. (2020). Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. *New England Journal of Medicine*. doi: 10.1056/NEJMc2001468.

Daramola, A. S., Olley, B. O., Oyeleke, J. T., & Kolawole, S. O. (2024).

Telepsychology response for mental health care during period of infectious disease pandemic: A systematic review.

- Spek, V., Cuijpers, P., Nyklicek, I., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behavioral therapies for symptoms of depression and anxiety: A meta-analysis. *Psychological Medicine, 37*, 319–328.
- Subramaniam, K., Luks, T. L., Garrett, C., Chung, C., Fisher, M., Nagarajan, S., & Vinogradov, S. (2014). Intensive cognitive training in schizophrenia enhances working memory and associated prefrontal cortical efficiency in a manner that drives long-term functional gain. *NeuroImage, 99*, 281–292.
- Will, _ _ (2020). Seven key research findings that could help people cope with COVID-19. *American Psychological Association*.
- World Health Organization. (2020a). Novel Coronavirus (2019-nCoV): Situation Report—12.
- World Health Organization. (2020b). Coronavirus Disease 2019 (COVID-19): Situation Report—30.
- Wu, P., Fang, Y., Guan, Z., Fan, B., Kong, J., Yao, Z., Liu, X., Fuller, C. J., Susser, E., Lu, J., & Hoven, C. W. (2009). Psychological effects of the SARS epidemic on Chinese hospital staff: Exposure, risk perception, and altruistic acceptance of risk. *Canadian Journal of Psychiatry, 54*(5), 302–311.
- Xiang, Y. T., Yang, Y., Li, W., et al. (2020). Timely psychological health services during the 2019 novel coronavirus outbreak. *Lancet Psychiatry*.
- Xixi Jiang, L., Deng, L., Zhu, Y., Ji, H., Tao, L., Liu, L., Yang, D., & Ji, W. (2020). Psychological crisis intervention during the outbreak period of new coronavirus pneumonia from experience in Shanghai. *Psychiatric Research*.
- Yang, J., Zheng, Y., Gou, X., Pu, K., Chen, Z., Guo, Q., Ji, R., Wang, H., Wang, Y., & Zhou, Y. (2020). Prevalence of comorbidities and their impact on patients with SARS-CoV-2 infection: A systematic review and meta-analysis. *International Journal of Infectious Diseases, 94*, 91–95.
- Yip, P. S. F., Cheung, Y. T., Chau, P. H., & Law, Y. W. (2010). The impact of epidemic outbreak: The case of severe acute respiratory syndrome (SARS) and suicide among older adults in Hong Kong. *Crisis, 31*(2), 86–92.

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