Scientific Research Publishing

Telehealth for Substance Use Disorders Treatment in Nigeria: Implementation Strategies Post-COVID-19

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Abstract

The COVID-19 pandemic has changed the way healthcare services are delivered. These changes will likely persist as countries recover from the economic crises following lockdowns. In developing countries, services for substance use disorders (SUDs) are inadequate and as countries prioritize infectious diseases, individuals with SUDs may suffer further neglect. This paper is a narrative review of peer-reviewed and grey literature on the current challenges with SUD treatment in Nigeria assesses how telehealth may positively affect access to evidence-based treatments and suggests strategies for implementation considering the unique challenges and opportunities in the country. If prioritized in her policy, telehealth has the potential to improve treatment outcomes for SUDs in Nigeria.

Keywords

Telehealth, Substance Use Disorders, Treatment, Nigeria

1. Introduction

The COVID-19 pandemic has stretched our health systems globally. In many countries, the pandemic has revealed weaknesses with current health delivery models and identified inequities in health and disparities in mortality rates. [1] [2] [3]. Perhaps, it has also definitively altered the future of healthcare delivery

from heavy reliance on in-person interactions to the realization that information technology should occupy a more central feature, not just in how healthcare services are managed but also in how it is delivered [4] [5]. The desire of governments to mitigate the effects of the pandemic has needed protocols that include social distancing, facemasks and in many cases lockdowns. The result has been that many services traditionally delivered' or based on in-person care models were adversely limited [6] [7]. In low- and middle-income countries, health coverage indices that were sub-optimal prior to the pandemic may be getting worse as the pandemic wreaks havoc on economies across the globe. The reduction in financial allocations for healthcare and the dearth of professionals due to migration to developed countries (*i.e.*, so-called "brain-drain") are causes for concern. [8] [9].

Nigeria's demographic population is predominantly youthful, and a high unemployment rate, as well as insecurity, has transformed the country previously considered a "low-use" and "high-traffic" country into one in which rates of drug use are high [10] [11] [12]. A recent nationwide community survey showed that the average past year use rate for any psychoactive substance was 14.4%. This was higher than the global average for 2016 which stood at 5.6% [13]. Though approximately 400,000 persons were classified as high-risk drug users in the survey, the majority with no- or low-risk use require preventive and treatment interventions that reduce the chance of evolving to high-risk use.

There is evidence that the pandemic has resulted in neglect in healthcare service delivery for individuals with substance use disorders (SUDs) as nations prioritize care for persons infected with the virus [14] [15]. In the United States, there has been a sharp increase in opioid use-related overdose deaths associated with limitations to care access for people with SUDs [16] [17]. Rising unemployment, isolation, and worsening co-occurring conditions following COVID-19 have resulted in increased drug use rates globally. [18] [19] [20]. Though no empirical data exists on the impact of COVID-19 on SUDs in Nigeria, the factors causing increased drug use rates are universal.

Telehealth is broadly defined as health care service delivery between service users and providers who are separated by distance. It uses information technology to ease screening, treatment, and follow-up for a variety of illnesses or health conditions. To distinguish it from telemedicine, telehealth also encompasses the use of information technology (phone calls, videoconferencing, web-based applications) to ease continuing education of health professionals, thereby achieving universal health coverage through greater access for patients, service quality, and cost-reduction. Its potential is greatest in remote areas and with vulnerable groups and geriatric populations [21]. In many high-income countries, there has been a rapid transition or greater inclusion of telehealth interventions into SUD care [22] [23]. These interventions vary in scope, coverage, and complexity. Telehealth models have allowed services for medication-assisted programs to continue and have also allowed patient monitoring and delivery of psychotherapeutic interventions. In this narrative review, we briefly discuss the state of substance

use treatment in Nigeria and argue for the inclusion of telehealth intervention for SUD treatment vis-a-vis the challenges unique to SUD treatment in Nigeria.

2. Methods

We conducted a search of the following databases (Google Scholar, PubMed, PsycINFO and CINAHL) for peer-reviewed literature, publications and grey literature with the following keywords "COVID-19, telehealth, telemedicine, policy, Nigeria, United States, addiction, substance use disorders".

The search yielded 1224 publications, which were pruned down to 258 with the removal of duplicates and a search of abstracts for relevance to the aim of the review. We then retrieved the full article or publication and further pruned the literature utilised in this narrative review to 69.

3. Results

3.1. Effectiveness of Telehealth Interventions in SUD Treatment

Assessing the effectiveness of telehealth in behavioural health is dependent on the factor of interest [24]. Early studies focused on service acceptance, access, and improvements in basic parameters. Recent reviews have looked at the validity/reliability of the intervention, the model of telehealth intervention and the adaptability to specific populations [25]. Telehealth has greater acceptance among young people who make-up a larger percentage of persons with SUDs [26]. In terms of access, studies have shown significant increases in access for vulnerable populations, especially populations that report stigma as a barrier to in-person treatment, which often characterizes SUD clients.

Several studies have validated the utility of the delivery of screening and diagnostic tools for SUDs using virtual platforms [27]; clients report satisfaction with individual therapy delivered virtually, though the evidence for superiority of virtual to in-person group psychotherapy has been limited [28] [29]. Innovations in information technology and ease of use of software and applications have further increased the effectiveness of telehealth interventions.

Telehealth has helped the training of health professionals, allowing for higher numbers of staff to be trained that would have needed more logistical planning when compared to in-person training. Further, health professionals have given positive evaluations to training delivered through virtual platforms [30]. The greatest challenges have not been with models of telehealth used in SUD treatment, but with ensuring the adaptability of the model as treatment setting, patient characteristics and staff competence influence the effectiveness of telehealth interventions. In the face of COVID-19, it is expected that more studies on telehealth interventions would improve the state of the art as more providers increase the uptake of telehealth services [31].

3.2. Substance Use Treatment in Nigeria

Historically, SUD treatment in Nigeria as in other West African countries has

been paired with mental and behavioural health services and offered within mental health facilities in publicly funded hospitals [32]. These services were at times unstructured, more focused on comorbid mental health conditions and detoxification [33]. Over the past three decades, substance use services have improved in terms of program design, range of services and treatment networks and professionals [34]. There has also been a gradual trend towards the professionalization of SUD providers in Nigeria.

In the 2018 nationwide community survey report, individuals (0.4% of the population aged 15 - 64 years) who use drugs were classified as having high-risk drug use. High-risk drug use is defined as persons for which drug use involved the use of opioids, crack/cocaine or amphetamines in the past 12 months and had used these substances on at least 5 occasions in the past month. The survey also found that 4-in-10 people with high-risk drug use showed that they needed treatment but could not access care due to named structural and attitudinal barriers [13]. Despite the huge need for substance use treatment services, evidence-based services are inadequate to meet demand due to several treatment barriers.

3.3. Barriers to Substance Use Care in Nigeria

3.3.1. Stigma

Mental health problems are heavily stigmatized in Nigeria [35] [36]. Many lay persons embrace a multi-factorial aetiology to mental illnesses and in addition to biopsychosocial models, embrace spiritual etiological belief models. Beliefs about disease aetiology influence treatment-seeking, and it is not unexpected that many seek alternative medical practitioners for care [37] [38]. The chronic course of most mental illnesses also sustains attitudes among lay persons that disease aetiology cannot be explained by biopsychosocial aetiology alone, and a spiritual or magico-religious factor must be responsible. It is a commonplace for care-seeking pathways to include visits to faith-based healers or traditional/alternative medical practitioners before seeking orthodox care [39] [40] [41].

Individuals with substance use disorders often present late to services because many appraise the illness as self-inflicted [36]. As a result, the support of family members, often crucial in early illness presentation, is lacking. Furthermore, the most affordable substance use treatment services are found within psychiatric hospitals or departments of mental health. It is common for health practitioners to receive requests from persons with SUDs, who admit they need care but are unwilling to receive it within a psychiatric facility.

3.3.2. Cost

Using severe SUDs as a case in reference, residential programs attract a prohibitive cost due to length of stay, as well as the need for a myriad of treatment interventions [42]. Though health insurance is available in Nigeria, its coverage is estimated at less than 10% of the population and does not offer any coverage for substance use disorders [43] [44]. Consequently, service users who need to ac-

cess care, typically pay "out-of-pocket". Interventions for mild to moderate SUDs are cheaper and have multiplier effects on emotional and physical health, but those with mild to moderate SUDs often don't get evidence-based interventions due to cost constraints [45].

3.3.3. Treatment Centres

While more treatment centres have been available since an earlier survey conducted a decade ago [46] [47], it is probable that these centres are still disproportionately available in urban areas and for fees that are beyond the reach of many who require substance use care [42]. SUD services vary depending on factors such as the severity of drug use, special population (women, children), or stage of recovery. There has been a skewed focus on offering residential treatment and then follow-up care on an out-patient basis by the government. Few centres run, for example, intensive out-patient services because of complaints by service users who cite logistic constraints (financing and transportation) that limit attendance to this type of program. In recent years there has been an increase in the availability of other kinds of services, such as counselling centres managed by the National Drug Law Enforcement Agency (NDLEA), drop-in-centres mostly run by non-governmental organizations and civil society groups, and rehabilitation services offered by faith-based organizations. These services are poorly or informally networked, and the result is that service users are not appropriately matched to the type of service by providers, or they slip through the cracks created by the gaps between types or levels of service.

Further, there is no harm reduction program currently available within substance use services in Nigeria [48]. The use of medications to treat opioid use disorders in the country has not been widely implemented by health authorities, despite being recommended in treatment guidelines. Consequently, most treatment services offer an eclectic mix of services, including psychotherapy, treatment for comorbid physical and mental disorders, psychoeducation, occupational therapy as well as needed "social" interventions.

Starting in 2012, the Federal Ministry of Health (FMOH), with support from the United Nations Office on Drugs and Crime (UNODC) named some centres as model treatment centres. The FMOH selected some centres as regional training hubs in substance use treatment. The goal is that these model treatment centres would offer standards of care that can be modelled by other facilities that want to set up new services or change existing programs. There are no formal networks between these centres and other services in the community catering to people with mild to moderate SUDs.

3.3.4. Trained Professionals

There has been a steady increase in the number of trained professionals in SUD treatment and prevention in the country. Many treatment services have professionals who have received some form of training in substance-using disorder treatment.

The number of qualified staff is, however, inadequate when compared to the burden of disease and risk of progression to severe SUDs among users with at-risk use. The knowledge and skills needed to screen and offer brief intervention for mild to moderate SUDs by healthcare workers at the primary and secondary health levels ensure that individuals at-risk for substance use disorders get relevant information and intervention that changes psychoactive substance use behaviours in persons who receive them.

3.4. Telemedicine and SUD Treatment in the United States: Learning Points for Developing Countries

The COVID-19 pandemic has had adverse effects on SUD treatment in the United States. [49] [50] Limitations on movement and social distancing resulted in limited or cancelled in-person clinic visits and individual and group therapies. Telemedicine interventions introduced before the pandemic was primarily geared at scaling up access to evidence-based treatment for persons in rural areas and ensuring continued treatment in systems where regular in-patient services were impracticable because of distance or a limited number of skilled providers [51] [52] [53].

Telemedicine models included delivering care at originating sites, which were health facilities staffed by staff with certain skill levels to ease vital signs recording, sample collection (blood work, toxicology screens) and interviews with a clinician using video conferencing software. Other telehealth modalities included individual and group therapies using video conferencing, the use of mobile web-based applications for appointment reminders or delivery of educational materials and augmenting in-person visits with a phone or web-based audio and video calls [51].

Following COVID-19, these modalities were scaled up by many service providers and allowed either a transition to virtual services or some blending that helped a reduction in in-person contact, thereby reducing the risk of infection. Additionally, Medicare and Medicaid allowing for reimbursement of telemedicine-based interventions may account for increased provision of virtual-based services. The suspension of the Ryan- Haight Act following the emergency scenario of COVID-19 also allowed greater flexibility for professionals as regards prescribing for clients with opioid use disorders without needing to evaluate them in person or at a facility [54] [55]. Telemedicine interventions should be adapted or suited to existing health systems within a country so that the benefits may allow for easy uptake or implementation. The benefits of their implementation are obvious in the face of the current pandemic. Developing countries can use telehealth to surmount barriers to treatment access.

3.5. Telemedicine and SUD Treatment in Nigeria

3.5.1. COVID-19 and SUD Treatment in Nigeria

Nigeria has not been immune to the challenges posed by measures to contain COVID-19 that have inadvertently affected SUD treatment [56]. Rather, the

pandemic and the measures to control it have further compounded client access to treatment, previously worsened by a limited number of treatment centres, a small number of trained professionals, stigma, and cost of care. Telemedicine can not only ease continued care, as has been the case in the United States but may also help increased care access. First, reducing the cost of treatment by savings on transportation to treatment facilities and even cheaper payments for remote consultations. Second, telemedicine can allow for the training of professionals, capacity building and building networks with a centrally located treatment facility linked to remote facilities. These networks may result in treatment for mild to moderate SUDs which have less cost burden.

3.5.2. IT Infrastructure in Nigeria

Nigeria has the largest penetration of mobile GSM users in Africa, with an estimated 173 million subscribers. In 2020, internet penetration was put at 99.05 million subscribers, resulting in a near 47% penetration rate, with projections set to rise by another 20% by 2025 [57]. The rapid growth kick-started and increased the reach of several service-based businesses, allowing the banking sector to thrive while overcoming infrastructure deficits like regular electricity or a poor road network [58] [59]. Though the coverage of internet services is broad, bandwidth is inconsistent across rural, semi-urban and some urban areas. Notwithstanding, the availability of GSM and the internet should allow for the delivery of a variety of telemedicine approaches, tailored to meet specific gaps in service provision or types of services.

3.5.3. Policy and Legal Framework for Telehealth in Nigeria

The country has not formally adopted any policy on e-health [60] [61]. Several studies and expert opinions have previously advocated that Nigeria's poor health indices would improve with telemedicine interventions that can overcome issues of access, transportation, skewed distribution of services for urban areas and early intervention [61]. A national conference convened in 2011 on Information and Communication Technology (ICT) and Health was determined to develop and facilitate the adoption of a policy on e-health or telehealth within a few years. Sadly, no progress has been made in this area [62] [63]. Though health professionals are guided by a code of ethics, the domain of healthcare delivery using telehealth raises some concerns that need to be addressed specifically. What telehealth applications would allow for written signed consent and remain affordable? How would patient records be stored and archived safely? Would confidentiality be possible and what structures would ease remote prescribing vis-à-vis the current reservations by pharmacies as regards electronic prescriptions.

The need for a definitive policy is essential when treatment approaches in SUD care are considered. Prescribing controlled medications for opioid use disorders (OUDs), psychotherapies either in groups or on an individual basis, consent for treatment, the confidentiality of treatment service offered, as well as cli-

ent awareness of their rights. A proper policy or legal framework will ease the acceptance of telehealth services and increase provider confidence. This policy should address the peculiarities that characterize care relationships when transacted remotely. Outside of SUD treatment, telemedicine approaches have been used by health professionals to provide follow-up care, appraise laboratory investigation reports, and plan the direction of further care or aid referrals. Telemedicine has shown valuable utility in resource-poor settings where there are chronic shortages of orthodox health practitioners and often a lack of follow-up care [64] [65].

The motivation of healthcare providers to offer services using telehealth modalities is limited by the availability of payment or reimbursement for services offered. Many providers in other areas of medicine in Nigeria use telehealth for follow-up care after the first consultation(s) have been undertaken in person. They note that these follow-up consults are usually not billed and thus offered entirely at the discretion of the service provider. A survey of service users' perspectives about payment for telehealth services showed that most were willing to pay for consultations but believed that the cost should on average be lower than the same service conducted in person [66].

3.6. Implementing Telehealth in SUD Treatment in Nigeria

Effective treatment for SUDs must be multidimensional and sustained. Addiction is a chronic disorder and single episode interventions have poor outcomes eventually. Telehealth can help overcome most of the barriers to care earlier highlighted in this paper.

3.6.1. Telehealth and Stigma

Most individuals with SUDs have mild to moderate SUD. In a setting like Nigeria, most see the location of substance use services within mental health hospitals as a barrier. Even those with severe SUDs often delay seeking care or only access care on the insistence of a family member. Telehealth can help overcome the stigma barrier. Via telehealth, service users can confidentially access information about SUDs, know about available services and contact service providers about treatment. Telehealth platforms can allow for the transfer of correct information about services, brief interventions, and referrals for treatment. Where possible, it could also allow for follow-up.

3.6.2. Telehealth and Treatment Services

The lack of formal networks among various categories of evidence-based services in Nigeria has limited the effectiveness of early intervention programs for SUDs. Additionally, options for individuals who complete residential treatment programs and are unable to adhere to outpatient services due to limitations from transportation or geographic location are limited. Telehealth allows for the development of an architecture that links services geographically and hierarchically. This way referrals up and down the various levels of services can be con-

ducted and tracked. Partnerships or memoranda of understanding can be set up within defined geographic regions with model treatment centres having greater professional ability and funding serving as hubs while providers offering drop-in centre services or counselling services serve as the spokes within this framework.

Outreach services can carry out screening using web-based tools and offer brief interventions or referrals to more specialized services. Relevant electronic records can be generated and archived and allow for fluidity of treatment access. Fewer trained professionals can offer proper guidance to service users within these networks and oversee service user engagement with services. The delivery of screening, brief intervention and referral where necessary within these formal hubs would overcome challenges of cost, transportation on the side of the service user and operating cost on the side of the care providers with better outcomes. Other telehealth modalities that can be easily deployed and sustained include mobile health applications (m-health) that may help treatment adherence, provide educational resources on relapse prevention for clients, and as a platform for contingency management programs. Telephone calls (phone-based recovery support and therapy) are also effective in augmenting in-person follow-up care, particularly for follow-up visits where monitoring adherence is not required [31]. Table 1 illustrates the pros and cons of implementing telehealth in Nigeria. This table was derived from a review of the literature on the facilitators and barriers to telehealth in Nigeria.

3.6.3. Telehealth and Capacity Building

One obstacle to effective SUDs treatment is the inadequacy of trained professionals. Nigeria has as a policy the integration of substance use and behavioural health care within primary care. Primary care services are, however, poorly funded and staff not regularly trained. Following COVID-19, capacity building that usually involved face-to-face workshops became impracticable. Telehealth could help with online training, or a combination of in-person and online

Table 1. Pros and cons of telehealth for SUDs implementation in Nigeria.

Pros	Cons
Improved treatment adherence	Not all applications/models are suitable due to limited or unstable internet in remote areas
Quality assurance across service types	Costs from phone calls and high data costs in Nigeria
Capacity building for allied health professionals	Provider confidence with the use of telehealth related to frequency of its use
Savings from reduced transportation to clinic appointments	Payment for telehealth care if service users do not believe they should pay for it
Access to health-promoting interventions	

modules in substance use screening, brief intervention and referral for treatment and allow for a linkage between health workers in primary care and skilled professionals in SUD treatment who are scarce, allowing for ongoing support and referrals. In the United States, Project Extension for Community Health Outcomes (ECHO) facilitates multipoint videoconferencing using virtual clinics to improve the capacity of community providers. This strategy has resulted in improved practitioner skills, client screening and case management [67] [68] [69].

3.6.4. Telehealth and Re-Organization of Services

Jumpstarting telehealth interventions before formal policies at the federal and or state levels are put in place is possible if treatment hubs or specialized services in SUD care realize that they can have wider coverage when they collaborate with other services offered by privately funded bodies, NGOs, and faith-based organizations. With staff shortages even at tertiary levels of care, it is not practical for such centres to conduct outreach programs that are unsustainable.

In re-organizing services, payment for such services is key to sustainability. In the absence of health insurance, centres can offer a bundle of care that incorporates in-person and telehealth modalities. This way, service providers within a hub can be reimbursed for services provided, ensuring sustainability. There are huge cost savings with models such as this, as transportation costs to services within urban areas would be significantly reduced and overcrowded clinics. Telehealth platforms depending on the level of complexity can facilitate effective client follow-up, treatment quality and patient outcome assessment. It would also allow for the gathering of valuable data on treatment-seeking, care engagement and other health behaviours that can be used in perfecting care delivery specific to unique local needs.

4. Conclusion

COVID-19 has not only adversely impacted SUD treatment in Nigeria but has also highlighted deficiencies in the organization of treatment services. Telehealth presents a workable potential in scaling up, integrating and perfecting screening, brief intervention, and treatment for people with SUDs during the intra and post-COVID pandemic era. It also can ease the training and set up of linkage models for health professionals and when designed with the limitations of bandwidth capacity across Nigeria, can be a sustainable model to ease the re-organization of services while leveraging on an informal and disconnected drug treatment network. The absence of a formal policy or legal framework on e-health in the country, while an obstacle, should not limit its widespread use as it has the potential to improve treatment access and quality.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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