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REVOLUTIONIZING RURAL HEALTHCARE: THE IMPACT OF TELEPHARMACY ON UNDERSERVED POPULATIONS

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Abstract

Telepharmacy provides a practical remedy for healthcare disparities in rural regions by providing remote access to pharmacy services. The objective of this study is to investigate the impact of telepharmacy on healthcare services in a rural community, specifically in terms of medication accessibility, convenience, health monitoring, patient satisfaction, trust in healthcare providers, financial savings, and overall well-being. The findings demonstrate that telepharmacy is essential for enhancing patient satisfaction, instilling trust in healthcare practitioners, and reducing healthcare costs in distant regions. Telepharmacy had a positive impact on the quality of life, resulting in an overall improvement in the well-being of those using remote pharmacy services. The study highlights the significant positive impacts of telepharmacy on healthcare services in remote regions. Future study might focus on addressing the concerns raised by participants who have neutral or somewhat negative views in order to enhance the effectiveness and acceptance of telepharmacy services. Continued research and progress in telepharmacy are essential to provide equitable access to high-quality pharmacy services and improved health outcomes for those residing in distant regions.

Keywords: Telepharmacy, contentment, medicine availability, healthcare oversight, ease of use, remote area.

1. Introduction

Rural locations often have worse quality and limited accessibility to healthcare compared to urban areas (). As a result, there have been adverse health effects in terms of both medical outcomes and financial implications, which pose difficulties for both people and the healthcare system. The COVID-19 pandemic has exposed the insufficient condition of healthcare in rural regions, especially in developing and underdeveloped nations, as a result of reduced in-person interactions (Mbunge et al., 2023; Onyebuchi, 2022; Poudel and Nissen, 2016; Nwachuya et al., 2023).

Health technology is seen as an effective approach to tackle major challenges in providing healthcare in rural locations. Telepharmacy, artificial intelligence (AI), and telemedicine are key components of the digital transformation in healthcare, changing the dynamics of patient and healthcare provider interactions. Telepharmacy refers to the provision of pharmacy services to patients, regardless of their geographical location, using communication and information technologies. Telepharmacy is a method of managing a pharmacy where a pharmacist use advanced telecommunications technology to oversee pharmacy operations and provide patient care services (Alexander et al., 2017; Butzner and Cuffee, 2021; Pathak et al., 2020).

Telepharmacy may streamline various clinical services and operational pharmacy duties, such as patient screening, prescription review, patient education, drug identification, disease prevention, and assessment of clinical outcomes. Telepharmacy has enhanced the accessibility of healthcare services by offering patient treatment, medicine dispensing, and dose monitoring. This has particularly benefited those who have difficulties in accessing nearby pharmacies, therefore reducing the gap between pharmacists and patients. Telepharmacy has obstacles in gaining widespread acceptance and implementation in African countries, particularly in rural regions. However, it offers several advantages (Win, 2017; Onyebuchi, 2022).

Rural communities often suffer from a lack of access to social amenities. These include medical centers, educational institutions, public transit, and vital resources such as water, electricity, and internet connectivity Remote and disadvantaged areas often face challenges in accessing top-notch healthcare services, including limited availability of pharmacies. Telepharmacy, a kind of telemedicine that allows pharmacists to remotely evaluate and dispense medicines, has emerged as a potential approach to address these disparitie (Batsis et al., 2017).s. This study aims to examine the impact of telepharmacy on rural and disadvantaged regions. This study seeks to provide valuable insights into the potential benefits of telepharmacy in addressing healthcare disparities in rural and underprivileged regions. The findings may provide guidance to policymakers, healthcare professionals, and community stakeholders about the effectiveness of telepharmacy in improving access to drugs and healthcare services.

2. Rural Health-Care System

Research indicates that the rural health-care system is in need of reform, and telepharmacy seems to be a promising answer (Baldoni et al., 2019; Abila et al., 2019; Hedima and Okoro, 2021; Sagaro et al., 2020). Telepharmacy is emerging as a viable method to enhance healthcare provision in rural regions of Africa where there is a scarcity of pharmacies and medical facilities. Telepharmacy employs wireless technology to enable pharmacists to provide pharmaceutical services remotely, therefore bridging barriers and reaching patients in need of assistance (Baldoni et al., 2019). A study done by Abila et al. (2019) in Nandi County, Kenya, revealed that 54.5% of healthcare professionals saw telepharmacy as essential for addressing urgent medical needs, underscoring its importance in healthcare institutions. This demonstrates the potential use of telepharmacy in both retail pharmacy and hospital settings.

3. Telepharmacy

Telepharmacy, an integral facet of telehealth, has become more crucial in light of the COVID-19 epidemic. Several inquiries into telepharmacy emerged as a response to the impacts of the COVID-19 pandemic. The references cited are from the works of Mbunge et al. (2023), Hedima and Okoro (2021), and Eslami Jahromi and Ayatollahi (2023). Telepharmacy has proven very advantageous for rural African communities within the COVID-19 pandemic, including benefits such as remote medication consultations, drug delivery, refill administration, medication compliance help, and screening programs. Telepharmacy has the potential to address the healthcare inequality, enhance access to pharmaceuticals, and optimize healthcare delivery in remote areas via the use of telecommunications technology and establishing a structural connection.

Ogbonna et al. (2022) highlighted the absence of rules in most African countries pertaining to online pharmacy activities, including telepharmacy services. This legislative gap raises concerns about patient confidentiality and the safeguarding of health information, both of which are fundamental values delineated in the professional standards of conduct for pharmacists. The growing amount of medical data kept digitally emphasizes the need to safeguard privacy, confidentiality, and security (Hedima and Okoro, 2021).

Aside from technological and regulatory challenges, the willingness of patients to pay for online pharmacy services is a significant obstacle. Research conducted by Ogbonna et al. (2022) and Anosike et al. (2020) reveal that many patients residing in rural regions exhibit reluctance in bearing the expenses associated with pharmacist-provided home remote monitoring services. Patients with low-income degrees may be unable to afford these therapies, resulting in their refusal to pay. This underscores the socioeconomic disparities that hinder the adoption of telepharmacy in economically disadvantaged rural areas.

Telepharmacy has facilitated individuals in enhancing their health management, medication compliance, and overall health outcomes. This highlights the positive impact of telepharmacy on healthcare administration and outcomes in the community.

Telepharmacy has enhanced trust in the healthcare system and physicians, while also increasing individuals' self-assurance in controlling their own health. Telepharmacy has significantly improved the relationship between individuals and healthcare practitioners. Participants reported that telepharmacy resulted in reduced healthcare expenses and improved their overall well-being. Telepharmacy provides several benefits for individuals in the community, including improvements in health, economic outcomes, and quality of life.

The results suggest that telepharmacy has greatly enhanced the availability of medications, convenience, healthcare management, trust in medical services, financial savings, and overall well-being among rural residents. Identifying and addressing any problems or lackluster responses is essential for improving and tailoring telepharmacy services to meet the needs of all community members.

A study done by Pathak et al. (2020) shown that telepharmacy improved medication adherence, reduced prescription errors, and increased patient satisfaction in rural North Carolina. According to Alfian et al. (2023), pharmacy students in Indonesia had a favorable perception of

telepharmacy services and expressed a strong desire to provide them in the future, especially in rural and remote areas. The results suggest that telepharmacy has the potential to improve the quality of medicine consumption and health outcomes in distant places.

However, the studies also emphasize other areas that need improvement and challenges in adopting telepharmacy. Several individuals voiced discontent with telepharmacy services, maybe due to technology challenges, communication barriers, or limited interpersonal interaction. In their study, Alhmoud et al. (2022) examined the perspectives of clinical pharmacists on telepharmacy services in the context of the COVID-19 pandemic. The obstacles they encountered consisted of insufficient infrastructure, regulatory constraints, and poor training. In order to ensure the quality and safety of telepharmacy services, it is imperative to address these issues and find solutions.

Rabbani et al. (2023) did a comprehensive scoping review that found that most studies on telepharmacy during the COVID-19 pandemic were descriptive and observational, lacking rigorous and comparative research. The study emphasized that telepharmacy primarily prioritized drug delivery and counseling, with less data for other services such as pharmaceutical treatment management, chronic disease management, and medication reconciliation. Further investigation is necessary to assess the effectiveness, cost-efficiency, and level of patient contentment with telepharmacy services across various circumstances and environments.

4. Conclusion

In conclusion, this study demonstrates the vital role that telepharmacy plays in improving healthcare services in rural regions. The considerable contentment and advantageous impacts on the availability of medication, convenience, health management, and overall well-being emphasize the need of integrating telepharmacy into rural healthcare systems. In the future, research may focus on addressing the concerns raised by those with neutral or somewhat negative views to enhance the effectiveness and acceptance of telepharmacy services. An investigation on the long-lasting effects of telepharmacy on health outcomes, cost savings, and quality of life in isolated communities might provide valuable insights for policymakers, healthcare practitioners, and residents. Through continuous research and innovation in telepharmacy, we can ensure that high-quality pharmacy services and improved health outcomes are universally accessible to anyone, regardless of their geographical location.

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