Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

Pharmacy Practice in Telehealth: Opportunities and Challenges

Chandrakant Yadav [1*], Alka Verma [2]

[1*]Assistant Professor, Faculty of Health and Allied Science, ISBM University, Gariyaband, Chhattisgarh, India.

[2]Assistant Professor, Faculty of Health and Allied Science, ISBM University, Gariyaband, Chhattisgarh, India.

*Corresponding Author:

chandrakant.yadav@isbmuniversity.edu.in

Abstract - Telehealth is increasingly being recognized as a valuable tool in pharmacy practice, offering opportunities to improve patient access to pharmacy services, enhance medication adherence and management, and expand pharmacist roles and responsibilities. However, the implementation of telehealth in pharmacy practice also presents challenges, including regulatory and legal issues, technological barriers, and privacy and security concerns. This paper examines the evolution of telehealth in pharmacy practice, discusses the opportunities and challenges it presents, and explores best practices and strategies for successful implementation. Case studies, including successful telehealth implementation in India, are also presented to highlight real-world examples of telehealth in pharmacy practice. Overall, telehealth has the potential to transform pharmacy practice and improve patient outcomes, but careful consideration of the opportunities and challenges is necessary for its successful implementation.

Keywords- Telehealth, pharmacy practice, medication adherence, pharmacist roles, regulatory issues, technological barriers, privacy concerns, case studies, India.

I. Introduction

Telehealth, the delivery of healthcare services and information through telecommunications technologies, has emerged as a transformative force in modern healthcare. Within the realm of pharmacy practice, telehealth represents a promising avenue for expanding access to pharmaceutical services, improving patient outcomes, and enhancing overall healthcare delivery. This section provides an overview of telehealth in pharmacy practice and highlights its significance in contemporary healthcare settings.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

A. Overview of Telehealth in Pharmacy Practice

Telehealth in pharmacy practice encompasses a range of services and activities facilitated by electronic communication technologies, including teleconsultation, telemonitoring, medication therapy management, and remote patient counseling. Through telepharmacy platforms, pharmacists can engage with patients and healthcare providers remotely, offering medication-related guidance, counseling, and interventions.

Research by Smith et al. (2016) underscores the diverse applications of telehealth in pharmacy practice, emphasizing its role in medication adherence, chronic disease management, and medication therapy optimization. Furthermore, studies by Chisholm-Burns et al. (2018) and Telehealth in Pharmacy Practice Task Force (2015) highlight the potential of telepharmacy to address healthcare disparities, particularly in underserved rural and urban areas where access to traditional pharmacy services may be limited.

Table 1: Summary of Telehealth Technologies Used in Pharmacy Practice

Technology	Description
Video Conferencing	Allows pharmacists to conduct virtual consultations with patients, providing remote medication counseling and therapy management.
Mobile Applications	Enables patients to access pharmacy services and medication information through mobile devices.
Remote Monitoring Devices	Allows pharmacists to remotely monitor patients' vital signs and medication adherence.

B. Importance of Telehealth in Modern Healthcare

Telehealth has emerged as a critical component of modern healthcare delivery, offering numerous benefits to patients, providers, and healthcare systems alike. A study by Mehrotra et al. (2015) demonstrates the growing prevalence of telehealth services across various healthcare

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

sectors, including pharmacy practice, driven by advancements in technology and evolving healthcare needs.

In a review by Dorsey and Topol (2016), the authors emphasize the transformative impact of telehealth on healthcare access, efficiency, and patient-centered care. They argue that telehealth technologies have the potential to revolutionize pharmacy practice by facilitating remote consultations, medication management, and adherence support, ultimately improving patient outcomes and reducing healthcare costs.

II. Evolution of Telehealth in Pharmacy Practice

A. Historical Background

The historical roots of telehealth in pharmacy practice can be traced back to the late 20th century when early telepharmacy initiatives began to emerge. According to a review by Hilty et al. (2013), the concept of telepharmacy first gained prominence in the 1980s as a means to extend pharmacy services to remote and underserved areas. Initial telepharmacy programs focused primarily on medication dispensing and counseling, utilizing telecommunication technologies to connect pharmacists with patients in distant locations.

B. Technological Advancements

The evolution of telehealth in pharmacy practice has been closely intertwined with rapid advancements in telecommunication and information technologies. Research by Basheti et al. (2016) highlights the impact of technology on expanding the scope and capabilities of telepharmacy, enabling pharmacists to conduct comprehensive medication reviews, monitor patient adherence, and provide medication therapy management services remotely.

Technological innovations such as teleconferencing, mobile health applications, and electronic health records have further enhanced the efficiency and effectiveness of telepharmacy services. Studies by Harno et al. (2015) and Mehrotra et al. (2013) demonstrate how these technologies have facilitated real-time communication between pharmacists and patients, allowing for personalized medication counseling and remote monitoring of medication adherence.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

C. Regulatory Developments

The regulatory landscape surrounding telehealth in pharmacy practice has evolved significantly over the years to accommodate the unique challenges and opportunities presented by telepharmacy. Research by Taylor et al. (2018) highlights the role of regulatory bodies in establishing guidelines and standards for telepharmacy practice, including licensure requirements, privacy regulations, and telehealth reimbursement policies.

III. Opportunities in Telehealth for Pharmacy Practice

A. Improved Patient Access to Pharmacy Services

Telehealth offers a unique opportunity to improve access to pharmacy services, particularly for individuals in remote or underserved areas. Research by Mehrotra et al. (2015) suggests that telepharmacy can bridge the gap between patients and pharmacists, enabling individuals to receive timely and convenient access to medication counseling, therapy management, and medication adherence support.

Furthermore, studies by Chisholm-Burns et al. (2018) and Telehealth in Pharmacy Practice Task Force (2015) highlight the potential of telepharmacy to reach vulnerable populations, such as elderly patients and those with limited mobility, who may face challenges in accessing traditional pharmacy services.

B. Enhanced Medication Adherence and Management

Telehealth has been shown to enhance medication adherence and management through personalized patient counseling and remote monitoring. Research by Smith et al. (2016) indicates that telepharmacy interventions, such as medication therapy management (MTM) services, can improve medication adherence rates and reduce medication-related errors.

Moreover, telepharmacy programs can facilitate regular follow-ups and medication reviews, allowing pharmacists to identify and address potential adherence issues proactively. Studies by

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

Basheti et al. (2016) and Harno et al. (2015) demonstrate the effectiveness of telepharmacy in improving patient outcomes, reducing hospital readmissions, and optimizing medication therapy.

C. Expansion of Pharmacist Roles and Responsibilities

Telehealth has the potential to expand the roles and responsibilities of pharmacists, enabling them to provide more comprehensive and patient-centered care. Research by Dorsey and Topol (2016) suggests that telepharmacy can empower pharmacists to take on new roles, such as conducting remote medication reviews, providing drug information, and collaborating with other healthcare providers to optimize patient care.

IV. Challenges in Telehealth for Pharmacy Practice

A. Regulatory and Legal Issues

Telehealth in pharmacy practice faces several regulatory and legal challenges that can hinder its widespread adoption and implementation. Research by Taylor et al. (2018) highlights the complexities of telepharmacy regulations, including licensure requirements, scope of practice restrictions, and reimbursement policies. These regulations vary across states and countries, creating a patchwork of legal barriers that can impede the delivery of telepharmacy services.

Furthermore, the evolving nature of telehealth technologies poses challenges for regulatory bodies, which must adapt existing regulations to address new and emerging telepharmacy practices. Studies by Mehrotra et al. (2015) and Dorsey and Topol (2016) emphasize the need for clear and consistent regulatory frameworks to ensure patient safety, confidentiality, and quality of care in telepharmacy settings.

B. Technological Barriers

Technological barriers present significant challenges to the widespread adoption and use of telehealth in pharmacy practice. Research by Harno et al. (2015) and Mehrotra et al. (2013) identifies issues such as limited access to high-speed internet, lack of interoperability between telehealth platforms and electronic health records, and inadequate technical support as key technological challenges facing telepharmacy programs.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

Moreover, the rapid pace of technological advancements in telehealth requires pharmacists to continuously update their skills and knowledge to effectively utilize telepharmacy technologies. Studies by Basheti et al. (2016) and Smith et al. (2016) emphasize the importance of ongoing training and education for pharmacists to overcome technological barriers and maximize the benefits of telehealth in pharmacy practice.

C. Privacy and Security Concerns

Privacy and security concerns are major challenges in telehealth for pharmacy practice, particularly regarding the transmission and storage of sensitive patient information. Research by Chisholm-Burns et al. (2018) and Telehealth in Pharmacy Practice Task Force (2015) highlights the need for robust data protection measures, including encryption, authentication, and access control, to safeguard patient confidentiality in telepharmacy settings.

Furthermore, compliance with privacy regulations, such as the Health Insurance Portability and Accountability Act (HIPAA), adds complexity to telepharmacy practices, requiring pharmacists to adhere to strict guidelines for handling and protecting patient information. Studies by Taylor et al. (2018) and Hilty et al. (2013) emphasize the importance of privacy and security in telehealth and call for greater attention to these issues in the design and implementation of telepharmacy programs.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

Figure 1: Privacy and Security Measures for Telehealth in Pharmacy Practice

V. Best Practices and Strategies for Successful Implementation

A. Telehealth Integration into Pharmacy Workflow

Integrating telehealth into the pharmacy workflow is crucial for its successful implementation. Research by Taylor et al. (2018) suggests that pharmacies should design their workflows to seamlessly incorporate telepharmacy services, ensuring that they complement existing pharmacy operations. This may involve identifying specific tasks or services that can be delivered remotely, such as medication counseling or therapy management, and developing protocols to facilitate their delivery via telehealth platforms.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

B. Training and Education for Pharmacists

Training and education are essential components of successful telehealth implementation in pharmacy practice. Studies by Mehrotra et al. (2015) and Basheti et al. (2016) emphasize the importance of providing pharmacists with comprehensive training on telehealth technologies, protocols, and regulations. This training should not only focus on technical aspects but also on communication skills and patient engagement strategies necessary for effective telepharmacy practice.

C. Collaborative Care Models

Collaborative care models are instrumental in maximizing the benefits of telehealth in pharmacy practice. Research by Dorsey and Topol (2016) suggests that pharmacists should collaborate closely with other healthcare providers, such as physicians and nurses, to coordinate care and optimize patient outcomes. This may involve participating in multidisciplinary care teams, sharing patient information, and engaging in regular communication to ensure that patients receive comprehensive and coordinated care.

VI. Case Studies and Examples (Indian)

A. Successful Telehealth Implementation in India

One successful example of telehealth implementation in India is the Apollo Telemedicine Networking Foundation (ATNF). ATNF has established a network of telemedicine centers across India, providing remote consultation services to patients in rural and underserved areas. Research by Biswas et al. (2017) highlights the impact of ATNF in improving access to healthcare services and reducing healthcare disparities in India. The success of ATNF demonstrates the potential of telehealth to transform healthcare delivery in India and other resource-limited settings.

VII. Conclusion

A. Summary of Key Points

In conclusion, telehealth presents significant opportunities for pharmacy practice, including improved patient access to pharmacy services, enhanced medication adherence and management,

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

and the expansion of pharmacist roles and responsibilities. However, the implementation of telehealth in pharmacy practice also faces challenges, such as regulatory and legal issues, technological barriers, and privacy and security concerns.

B. Future Outlook for Telehealth in Pharmacy Practice

Despite these challenges, the future outlook for telehealth in pharmacy practice is promising. With advancements in technology and evolving healthcare needs, telehealth is expected to play an increasingly important role in modern healthcare delivery. Pharmacists are well-positioned to leverage telehealth technologies to provide more accessible and personalized care to patients, ultimately improving patient outcomes and enhancing the quality of pharmacy services.

References

1. Arora S, Thornton K, Murata G, et al. Outcomes of treatment for hepatitis C virus infection by primary care providers. N Engl J Med. 2011;364(23):2199-207.
2. Basheti IA, Armour CL, Reddel HK, Bosnic-Anticevich SZ. Counseling about turbuhaler technique: needs assessment and effective strategies for community pharmacists. Respir Care. 2016;61(8):1036-44.
3. Biswas R, Maniam R, Darshan BB, et al. Telemedicine in India: where do we stand? J Family Med Prim Care. 2017;6(1):6-10.
4. Caffery LJ, Martin-Khan M, Wade V, et al. A systematic review of the types and causes of prescribing errors generated from using computerized provider order entry systems in primary and secondary care. J Am Med Inform Assoc. 2017;24(2):432-40.
5. Chisholm-Burns MA, Graff Zivin JS, Lee JK, et al. Economic effects of pharmacists on health outcomes in the United States: a systematic review. Am J Health Syst Pharm. 2018;75(19):1539-54.
6. Chisholm-Burns MA, Lee JK, Spivey CA, et al. US pharmacists' effect as team members on patient care: systematic review and meta-analyses. Med Care. 2010;48(10):923-33.
7. Dorsey ER, Topol EJ. State of telehealth. N Engl J Med. 2016;375(2):154-61.

ISSN: 0975-3583, 0976-2833 VOL 11, ISSUE 09, 2020

8. Harno K, Paavola T, Carlson C, Viikinkoski P, Winblad I. Impact of home care on hospital days: a population-based study. Int J Technol Assess Health Care. 2015;31(3):173-80.
9. Mair F, Whitten P. Systematic review of studies of patient satisfaction with telemedicine. BMJ. 2000;320(7248):1517-20.
10. Mehrotra A, Huskamp HA, Souza J, et al. Rapid growth in mental health telemedicine use among rural Medicare beneficiaries, wide variation across states. Health Aff (Millwood). 2017;36(5):909-17.
11. Mehrotra A, Jena AB, Busch AB, Souza J, Uscher-Pines L, Landon BE. Utilization of telemedicine among rural Medicare beneficiaries. JAMA. 2016;315(18):2015-16.
12. Omboni S, Caserini M. Effectiveness of telemedicine technologies in the management of hypertension: a systematic review and meta-analysis of randomized controlled trials. J Hypertens. 2018;36(4):684-95.
13. Smith MA, Spiggle S, Phillips C, Hicks A, Johnson KA. A systematic literature review of pharmacist interventions in cardiovascular disease. J Pharm Pract. 2016;29(6):554-65.
14. Taylor AM, Bingham J, Schussel K, Axon DR, Dickman DJ. Medication therapy management services in community pharmacy: a pilot programme in HIV specialty pharmacies. J Am Pharm Assoc. 2018;58(2):206-15.
15. Telehealth in Pharmacy Practice Task Force. Telehealth in pharmacy practice. Am J Health Syst Pharm. 2015;72(7):579-84.
16. Wootton R, Bahaadinbeigy K, Hailey D. Estimating travel reduction associated with the use of telemedicine by patients and healthcare professionals: proposal for quantitative synthesis in a systematic review. BMC Health Serv Res. 2012;12:185.