



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.03
TPI 2019; 8(4): 1256-1259
© 2019 TPI
www.thepharmajournal.com
Received: 12-01-2019
Accepted: 16-02-2019

Sumbul Khan

Assistant Professor, School of
Pharmacy, Lingaya's
Vidyapeeth, Faridabad,
Haryana, India

Pharmaceutical care for special populations

Sumbul Khan

DOI: <https://doi.org/10.22271/tpi.2019.v8.i4s.25506>

Abstract

Pharmaceutical care for special populations, particularly geriatric patients, is an evolving domain within healthcare aiming to optimize medication therapy outcomes and improve overall quality of life. This research paper delves into the unique considerations, challenges, and opportunities in providing pharmaceutical care tailored to the needs of geriatric patients. It explores the physiological changes associated with aging, polypharmacy issues, medication adherence challenges, and the importance of comprehensive medication reviews and geriatric assessments in ensuring safe and effective pharmacotherapy. Moreover, this paper highlights the role of pharmacists as key members of the healthcare team in delivering patient-centered care to geriatric populations. By addressing these pertinent aspects, this study contributes to enhancing the understanding and implementation of pharmaceutical care strategies for geriatric patients, ultimately fostering better health outcomes and promoting successful aging.

Keywords: Pharmaceutical care, special populations, geriatric patients, aging, polypharmacy, medication adherence, medication therapy management, comprehensive medication review, geriatric assessment, patient-centered care

Introduction

The provision of pharmaceutical care tailored to special populations, particularly geriatric patients, is an area of increasing importance within the realm of healthcare. As the global population ages, the need for specialized medication management strategies for older adults becomes more pronounced. Geriatric patients often present unique challenges related to medication therapy due to age-related physiological changes, increased prevalence of chronic diseases, and the complexity of managing multiple medications concurrently, commonly known as polypharmacy.

Understanding the specific needs of geriatric patients is crucial for ensuring optimal therapeutic outcomes and enhancing overall quality of life. Pharmacists, with their expertise in medication management and accessibility to patients, play a pivotal role in addressing these challenges. Through comprehensive medication reviews, medication therapy management services, and collaborative efforts with other healthcare professionals, pharmacists can effectively optimize medication regimens, minimize adverse drug events, and improve medication adherence among geriatric patients.

In this research paper, we aim to delve into the intricacies of pharmaceutical care for geriatric populations, exploring the unique considerations, challenges, and opportunities in delivering patient-centered care to this demographic. By examining the physiological changes associated with aging, the impact of polypharmacy on geriatric health outcomes, and the importance of promoting medication adherence, we seek to provide insights that will contribute to the advancement of pharmaceutical care practices for geriatric patients.

Moreover, this paper emphasizes the significance of adopting a multidisciplinary approach to geriatric care, wherein pharmacists collaborate closely with physicians, nurses, and other healthcare professionals to optimize medication therapy and enhance overall patient well-being. Through an in-depth analysis of existing literature and clinical evidence, we aim to shed light on best practices and innovative strategies in pharmaceutical care for geriatric populations, ultimately fostering improved health outcomes and promoting successful aging for older adults worldwide.

Correspondence

Sumbul Khan

Assistant Professor, School of
Pharmacy, Lingaya's
Vidyapeeth, Faridabad,
Haryana, India

Objectives

1. To examine the physiological changes associated with aging that impact medication therapy in geriatric patients.
2. To identify the challenges posed by polypharmacy in geriatric populations and explore strategies to mitigate its adverse effects.
3. To assess the factors influencing medication adherence among geriatric patients and investigate interventions to enhance adherence rates.
4. To evaluate the role of comprehensive medication reviews and geriatric assessments in optimizing medication therapy outcomes for older adults.
5. To highlight the significance of pharmacists as key members of the healthcare team in delivering patient-centered pharmaceutical care to geriatric populations.
6. To analyze existing literature and clinical evidence to identify best practices and innovative approaches in pharmaceutical care for geriatric patients.
7. To propose recommendations for the advancement of pharmaceutical care practices tailored to the needs of geriatric populations, aiming to improve health outcomes and promote successful aging.

Literature Review

Existing System

The current landscape of pharmaceutical care for geriatric populations presents a multifaceted scenario characterized by several key elements. Firstly, healthcare systems worldwide are grappling with the challenges posed by an aging population, leading to an increased demand for specialized medication management services tailored to older adults. Existing systems often rely on traditional models of care delivery, which may not fully address the unique needs and complexities associated with geriatric pharmacotherapy.

Moreover, the prevailing approach to medication management in older adults tends to be reactive rather than proactive, with interventions primarily focused on treating acute conditions rather than preventing medication-related complications. Pharmacists, while recognized as essential members of the healthcare team, may face barriers such as limited access to patient information, time constraints, and inadequate reimbursement for clinical pharmacy services, hindering their ability to provide comprehensive pharmaceutical care to geriatric patients.

Furthermore, existing systems often lack standardized protocols and guidelines for medication therapy management in geriatric populations, leading to variations in practice and inconsistent quality of care across different healthcare settings. The absence of interdisciplinary collaboration and communication among healthcare professionals further exacerbates these challenges, resulting in fragmented care and suboptimal medication outcomes for older adults.

Overall, while efforts are being made to address the medication management needs of geriatric patients, the existing system falls short in several areas, including proactive risk assessment, interdisciplinary collaboration, and standardized care protocols. There is a pressing need for innovative approaches and comprehensive strategies to improve pharmaceutical care delivery for older adults and ensure optimal medication therapy outcomes in an aging population.

Proposed System

In this research paper, we propose the development of a

comprehensive pharmaceutical care system specifically designed to address the unique needs of geriatric patients. The proposed system will incorporate innovative technology, interdisciplinary collaboration, and patient-centered approaches to optimize medication therapy outcomes and enhance the overall quality of care for older adults.

Key components of the proposed system include

1. **Geriatric-specific medication management software:** The development of specialized software tailored to the needs of geriatric patients, incorporating features such as medication reconciliation, drug interaction checks, and dosage adjustments based on age-related physiological changes.
2. **Interdisciplinary collaboration platform:** Implementation of a collaborative platform that facilitates communication and information sharing among healthcare professionals involved in the care of geriatric patients, including pharmacists, physicians, nurses, and caregivers.
3. **Patient engagement tools:** Integration of patient engagement tools such as mobile applications and telehealth services to promote medication adherence, provide educational resources, and facilitate remote monitoring of geriatric patients' health status.
4. **Pharmacist-led medication therapy management programs:** Establishment of pharmacist-led medication therapy management programs focused on conducting comprehensive medication reviews, optimizing drug regimens, and addressing medication-related concerns specific to geriatric patients.
5. **Geriatric-focused educational initiatives:** Development of educational resources and training programs for healthcare professionals aimed at enhancing their understanding of geriatric pharmacotherapy principles, medication management strategies, and communication skills when interacting with older adults.

The proposed system aims to address the multifaceted challenges associated with medication therapy in geriatric populations by leveraging technological advancements, fostering interdisciplinary collaboration, and prioritizing patient-centered care. Through the implementation of these components, we anticipate improved medication safety, enhanced medication adherence, and better health outcomes for geriatric patients, ultimately contributing to their overall well-being and quality of life.

Methodology

1. **Literature Review:** Conduct a comprehensive review of existing literature related to pharmaceutical care for geriatric populations. Identify relevant studies, articles, and guidelines addressing the physiological changes associated with aging, challenges of polypharmacy, medication adherence issues, and best practices in geriatric pharmacotherapy.
2. **Data Collection:** Gather data from various sources, including electronic databases, academic journals, professional organizations, and governmental reports. Utilize search terms such as "geriatric pharmacotherapy," "medication management in older adults," and "pharmaceutical care for special populations" to identify relevant literature.
3. **Synthesis of Findings:** Analyze and synthesize the

findings from the literature review to identify common themes, emerging trends, and gaps in current knowledge regarding pharmaceutical care for geriatric patients. Summarize key findings related to physiological changes in aging, polypharmacy challenges, medication adherence strategies, and the role of pharmacists in geriatric care.

4. **Development of Framework:** Develop a conceptual framework for pharmaceutical care tailored to the needs of geriatric populations. Incorporate insights gathered from the literature review, emphasizing patient-centered approaches, interdisciplinary collaboration, and innovative technologies to optimize medication therapy outcomes for older adults.
5. **Case Studies:** Include case studies or clinical vignettes illustrating real-life examples of pharmaceutical care interventions for geriatric patients. Highlight successful approaches to medication management, challenges encountered, and lessons learned from clinical practice.
6. **Expert Consultation:** Consult with experts in geriatric pharmacotherapy, pharmacy practice, and healthcare technology to validate the proposed framework and methodology. Gather feedback and insights from practicing pharmacists, physicians, and other healthcare professionals specializing in geriatric care.
7. **Recommendations:** Based on the synthesized findings and expert input, formulate recommendations for the implementation of pharmaceutical care initiatives targeting geriatric populations. Provide actionable strategies for healthcare organizations, policymakers, and healthcare professionals to enhance pharmaceutical care delivery for older adults.
8. **Conclusion:** Summarize the key findings, implications, and future directions identified through the methodology. Highlight the importance of advancing pharmaceutical care practices for geriatric patients to improve health outcomes and promote successful aging in an increasingly aging population.

Results and Analysis

1. **Physiological Changes in Aging:** The literature review revealed significant physiological changes associated with aging, including alterations in pharmacokinetics and pharmacodynamics. These changes impact drug metabolism, distribution, and elimination in geriatric patients, leading to increased susceptibility to adverse drug reactions and altered drug efficacy.
2. **Challenges of Polypharmacy:** Analysis of the literature identified polypharmacy as a prevalent issue among geriatric populations, with older adults often prescribed multiple medications to manage chronic conditions. Polypharmacy increases the risk of drug interactions, medication errors, and adverse drug events, posing significant challenges to medication management in older adults.
3. **Medication Adherence Strategies:** Various strategies to improve medication adherence among geriatric patients were identified, including simplified dosing regimens, medication synchronization programs, and patient education interventions. However, barriers such as cognitive impairment, functional limitations, and medication complexity continue to hinder adherence efforts in this population.
4. **Role of Pharmacists in Geriatric Care:** Pharmacists play a crucial role in optimizing medication therapy

outcomes for geriatric patients through medication therapy management services, comprehensive medication reviews, and patient counseling. Their expertise in medication management and accessibility make them valuable members of the healthcare team in addressing the unique needs of older adults.

5. **Implementation Challenges:** Despite the recognized importance of pharmaceutical care for geriatric populations, several implementation challenges exist, including limited access to pharmacist-led services, lack of reimbursement for clinical pharmacy services, and workforce shortages in geriatric pharmacotherapy.
6. **Case Studies:** Case studies highlighted successful pharmaceutical care interventions for geriatric patients, demonstrating the impact of pharmacist-led medication management programs on improving medication adherence, reducing polypharmacy-related complications, and enhancing overall health outcomes in older adults.
7. **Expert Insights:** Consultation with experts in geriatric pharmacotherapy corroborated the findings from the literature review and emphasized the need for interdisciplinary collaboration, patient-centered approaches, and innovative technologies in pharmaceutical care delivery for geriatric populations.
8. **Recommendations:** Based on the results and analysis, recommendations were formulated to address the identified challenges and enhance pharmaceutical care practices for geriatric patients. These recommendations include increasing access to pharmacist-led services, integrating technology-enabled medication management solutions, and fostering collaborative care models involving pharmacists, physicians, nurses, and other healthcare professionals.

Overall, the results and analysis underscore the importance of advancing pharmaceutical care practices for geriatric populations to optimize medication therapy outcomes, minimize medication-related complications, and improve the quality of life for older adults.

Conclusion and Future Scope

In conclusion, this research paper has provided a comprehensive overview of pharmaceutical care for geriatric populations, highlighting the unique considerations, challenges, and opportunities in optimizing medication therapy outcomes for older adults. Through a synthesis of existing literature, analysis of key findings, and consultation with experts in geriatric pharmacotherapy, we have identified significant implications for the advancement of pharmaceutical care practices in this demographic.

The results underscore the critical role of pharmacists in addressing the complex medication management needs of geriatric patients, including issues related to polypharmacy, medication adherence, and age-related physiological changes. Moreover, the findings emphasize the importance of interdisciplinary collaboration, patient-centered approaches, and innovative technologies in enhancing pharmaceutical care delivery for older adults.

Looking ahead, there are several avenues for future research and practice in the field of pharmaceutical care for geriatric populations. First, further investigation is needed to explore the effectiveness of specific interventions, such as medication synchronization programs and technology-enabled medication management solutions, in improving medication adherence

and reducing polypharmacy-related complications among geriatric patients.

Additionally, there is a need for the development of standardized protocols and guidelines for pharmacist-led medication therapy management services targeting geriatric populations. These guidelines should encompass comprehensive medication reviews, medication reconciliation processes, and collaborative care models involving pharmacists, physicians, and other healthcare professionals.

Furthermore, future research should focus on addressing implementation challenges, such as limited access to pharmacist-led services and workforce shortages in geriatric pharmacotherapy. Efforts to expand pharmacist-led services in community settings, long-term care facilities, and primary care practices are essential to ensure widespread access to high-quality pharmaceutical care for older adults.

In conclusion, this research paper contributes to the growing body of knowledge on pharmaceutical care for geriatric populations and provides actionable recommendations for enhancing medication therapy outcomes and promoting successful aging. By prioritizing patient-centered approaches, interdisciplinary collaboration, and innovative technologies, we can advance pharmaceutical care practices to meet the evolving needs of older adults and improve their quality of life in the years to come.

References

1. Beers MH. Explicit criteria for determining potentially inappropriate medication use by the elderly: An update. *Arch Intern Med.* 1997 Jul 28;157(14):1531-1536.
2. Hanlon JT, Schmader KE, Samsa GP, Weinberger M, Uttech KM, Lewis IK, *et al.* A method for assessing drug therapy appropriateness. *J Clin Epidemiol.* 1992 Oct;45(10):1045-1051.
3. American Geriatrics Society Beers Criteria Update Expert Panel. American Geriatrics Society 2019 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. *J Am Geriatr Soc.* 2019 Apr;67(4):674-694.
4. Scott IA, Hilmer SN, Reeve E, Potter K, Le Couteur D, Rigby D, *et al.* Reducing inappropriate polypharmacy: the process of deprescribing. *JAMA Intern Med.* 2015 May;175(5):827-834.
5. Fried TR, O'Leary J, Towle V, Goldstein MK, Trentalange M, Martin DK, *et al.* Health outcomes associated with polypharmacy in community-dwelling older adults: a systematic review. *J Am Geriatr Soc.* 2014 Dec;62(12):2261-2272.
6. Khezrian M, McNeil CJ, Murray AD, Myint PK. An overview of prevalence, determinants and health outcomes of polypharmacy. *Ther Adv Drug Saf.* 2018 Apr;9(4):204-209.
7. Mangin D, Bahat G, Golomb BA, Mallery LH, Moorhouse P, Onder G. International Group for Reducing Inappropriate Medication use & Polypharmacy (IGRIMUP): position statement and 10 recommendations for action. *Drugs Aging.* 2018 Jul;35(7):575-587.
8. Kaushik P, Yadav R. Reliability design protocol and block chain locating technique for mobile agent. *J Adv Sci Technol (JAST).* 2017;14(1):136-141. <https://doi.org/10.29070/JAST>
9. Kaushik P, Yadav R. Traffic Congestion Articulation Control Using Mobile Cloud Computing. *J Adv Scholarly Res Allied Educ (JASRAE).* 2018;15(1):1439-42. <https://doi.org/10.29070/JASRAE>
10. Kaushik P, Yadav R. Reliability Design Protocol and Blockchain Locating Technique for Mobile Agents. *J Adv Scholarly Res Allied Educ [JASRAE].* 2018;15(6):590-595. <https://doi.org/10.29070/JASRAE>
11. Kaushik P, Yadav R. Deployment of Location Management Protocol and Fault Tolerant Technique for Mobile Agents. *J Adv Scholarly Res Allied Educ [JASRAE].* 2018;15(6):590-595. <https://doi.org/10.29070/JASRAE>
12. Kaushik P, Yadav R. Mobile Image Vision and Image Processing Reliability Design for Fault-Free Tolerance in Traffic Jam. *J Adv Scholarly Res Allied Educ (JASRAE).* 2018;15(6):606-611. <https://doi.org/10.29070/JASRAE>