Essential Pharmaceutical Care Services for Optimizing Medication Management Amongst Hospitalized Elderly Patients: A Systematic Review

Jehath Syed  
JSS College of Pharmacy, Mysuru  
https://orcid.org/0000-0002-9865-5894

Bavneet Kaur  
JSS College of Pharmacy, Mysuru

Madhan Ramesh  
JSS College of Pharmacy, Mysuru  
https://orcid.org/0000-0002-4272-0204

Prathiba Pereira  
JSS Medical College

Sri Harsha Chalasani (✉ sriharshachalasani@jssuni.edu.in)  
JSS College of Pharmacy, Mysuru  
https://orcid.org/0000-0001-6229-0435

Method Article

Keywords: Clinical pharmacist, pharmaceutical care services, elderly, comprehensive geriatric care, geriatric care

Posted Date: November 3rd, 2023

DOI: https://doi.org/10.21203/rs.3.pex-2433/v1

License: ☑️ This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License
Abstract

Because the elderly are more likely to experience adverse drug reactions than the younger population, the American Society of Consultant Pharmacists (ASCP) emphasizes the importance of pharmacists in managing medications in this age group. Clinical pharmacists in geriatrics, like other medical disciplines, strive to promote rational and safe use of medicines. The focus is on dose adjustment, minimizing polypharmacy, identifying and preventing adverse drug reactions, potentially inappropriate medications and improving compliance. However, there is no standard in the developing countries for what is required of a clinical pharmacist to provide comprehensive geriatric care. Therefore, this review critically evaluates studies that report the various pharmaceutical services provided to optimise the elderly care during their hospital stay.

Following the PRISMA guidelines, we will conduct a systematic review that will include two databases: PubMed and Scopus. We will summarise the available evidence on pharmaceutical care services for optimizing drug therapy in hospitalized elderly patients.

Introduction

Reagents

Equipment

Procedure

The protocol of this study was registered in the International Prospective Register of Systematic Reviews (PROSPERO) (registration number: CRD42023433188) on 24th June 2023.

Review question

What are the essential pharmaceutical services provided to optimize medication management and ensure safe and effective drug therapy amongst hospitalized elderly patients?

Searches

The review will be carried-out based on the guidelines of systematic review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to identify the relevant articles. A literature search will be performed using the scientific data sources - PubMed, and Scopus. The search
period includes all peer-reviewed full-text articles published in the English language till date will be searched.

**Search strategy**

**PubMed**


**Scopus**

( ALL ( ”pharmaceutical services” OR ”pharmaceutical care” OR ”pharmaceutical care service” OR ”pharmaceutical care services” OR ”clinical pharmacy” OR ”pharmacists” OR ”clinical pharmacist” OR ”clinical pharmacy service” OR ”clinical pharmacy services” OR ”comprehensive geriatric care” ) AND ALL ( ”medication therapy management” OR ”Medication Review” OR ”Medication Review” OR ”medication optimization” OR ”drug therapy management” OR ”pharmaceutical intervention” OR ”pharmaceutical optimization” ) AND ALL ( ”Aged” OR ”Older adults” OR ”Elderly” OR ”Geriatrics” OR ”Geriatric” OR ”senior citizens” OR ”older patients” ) AND ALL ( ”hospital*” OR ”inpatients” OR ”inpatient” OR ”admit” OR ”admit*” ) ) AND ( LIMIT-TO ( DOCTYPE , ”ar” ) ) AND ( LIMIT-TO ( LANGUAGE , ”English” ) )

**Types of study to be included**

The proposed review will include randomized controlled trials, non-randomized controlled studies, cohort
studies, prospective or retrospective studies, observational studies. The study types such as, literature reviews, letter to editors, pilot studies, and short communications would be excluded from the review.

**Condition or domain being studied**

Assessing the various pharmaceutical services provided to optimize the elderly care during their hospital stay; various components of a comprehensive geriatric care model.

**Participants/population**

Cohort studies, observational studies, randomized or non-randomized controlled trials that report a pharmaceutical care for drug therapy optimization as their one of the objectives with elderly population age greater than equal to 60 years in hospital settings. Any studies which were conducted else where such as out-patient department, community setting will be excluded from the study. In addition, studies published in other languages apart from English, and studies which were review in nature such as, literature review, letter to the editor, pilot studies, and short communications are not considered for the review.

**Intervention(s), exposure(s)**

Pharmaceutical care services for drug therapy optimization in hospitalized elderly population

**Comparator(s)/control**

None

**Context**

Studies involving pharmaceutical services to optimize the drug therapy in elderly care at hospital settings which were conducted across the globe would be considered for the review.

**Main outcome(s)**
To understand the various services provided by the clinical pharmacist in elderly patient care for therapy optimization. Impact of these services on identification of drug related problems, potentially inappropriate medications, improving medication adherence, preforming medication reconciliation, reducing medication errors in the in-patient settings.

**Additional outcome(s)**

Reduction in the length of hospital stay, reducing 30-day post discharge readmissions, economic benefits, and any other outcomes reported in the study relevant to the elderly therapy management and prognosis.

**Data extraction (selection and coding)**

The screening of the title and abstract of each article, and the potentially eligible full-texts of relevant abstracts would be obtained and screened to identify articles based on the above mentioned inclusion criteria by two independent reviewers. From each study the following data will be extracted, author name(s), publication year, country, the total number of study participants, mean age of study participants, the aim of the study, the pharmaceutical care provided, primary and secondary outcomes reported. Any conflicts on inclusion will be resolved through consensus by the reviewers.

**Risk of bias (quality) assessment**

Risk of bias and quality assessment of the selected studies will be performed by using the Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields and a 14-item measurement tool used to assess the methodological quality of studies in a systematic review. Three independent reviewers will assess the risk of bias and quality of the included studies and any discrepancies will be resolved through consensus by all the project reviewers.

**Strategy for data synthesis**

The included studies will be categorized based on the design, and findings are compared and alternatively reported. The aggregate data (the pharmaceutical care services) will be used in reporting the findings qualitatively. Two reviewers independently will screen the title & abstract of each article, and the potentially eligible full-texts of relevant abstracts will be imported into Rayyan software to remove the duplicates and review the studies based on the inclusion & exclusion criteria.
Any disagreements among the researchers regarding the inclusion of the studies will be resolved through consensus. Risk of bias and methodological quality of each included study will be performed by two independent reviewers by using the standard quality assessment criteria for evaluation primary papers from a variety of fields.

**Analysis of subgroups or subsets**

If the relevant data is available, analysis will be done on economic outcomes.