

Protocol for the implementation of pharmaceutical care in geriatrics: strategy for safety in health care

Protocolo da implantação do cuidado farmacêutico na geriatria: estratégia para segurança na assistência à saúde

Protocolo para la implementación de la atención farmacéutica en geriatria: estrategia de seguridad en la atención sanitaria

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How to cite this article:

Oliveira AM, Varallo FR, Rodrigues JPV, Pereira LRL. Protocol for the implementation of pharmaceutical care in geriatrics: strategy for safety in health care. Rev Gaúcha Enferm. 2022;43:e20210236. doi: <https://doi.org/10.1590/1983-1447.2022.20210236.en>

ABSTRACT

Objective: To describe the experience of the implementation of pharmaceutical care in a geriatric hospital unit and to propose an instructional protocol for the practice.

Methods: Experience report that became the practice manual of pharmaceutical care in geriatrics (MaP-CFarmaGeri) of a Brazilian hospital and was structured in three topics (1. Situational diagnosis; 2. Adequacy of the procedure and service provision; 3. Practice exercise).

Results: The situational diagnosis comprised the collection of data on the structure of the ward and the epidemiological profile. The pharmaceutical services provided included pharmacotherapeutic follow-up, medication reconciliation and pharmacotherapy review. The certification of the content of this procedure was attested by specialists from a multiprofessional team and the technique served more than 60 patients in practice, with good acceptance by the participants.

Final considerations: The MaP-CFarmaGeri proved to be a satisfactory strategy in the implementation of pharmaceutical care in geriatrics and can support this insertion in similar locations.

Keywords: Patient safety. Patient-centered care. Patient care team. Evidence-based pharmacy practice. Geriatrics.

RESUMO

Objetivo: Descrever a experiência da implantação do cuidado farmacêutico em uma unidade hospitalar de geriatria e propor um protocolo instrutivo da prática.

Métodos: Relato de experiência que se converteu no manual da prática do cuidado farmacêutico na geriatria (MaP-CFarmaGeri) de um hospital brasileiro e foi estruturado em três tópicos (1. Diagnóstico situacional; 2. Adequação do procedimento e oferta do serviço; 3. Exercício da prática).

Resultados: O diagnóstico situacional compreendeu o levantamento dos dados sobre a estrutura da enfermagem e o perfil epidemiológico. Os serviços farmacêuticos ofertados incluíram o acompanhamento farmacoterapêutico, com a conciliação de medicamentos e a revisão da farmacoterapia. A certificação do conteúdo desse procedimento foi atestada por especialistas de uma equipe multiprofissional e a técnica atendeu mais de 60 pacientes na prática, com boa aceitação dos participantes.

Considerações finais: O MaP-CFarmaGeri mostrou ser uma estratégia satisfatória na implantação do cuidado farmacêutico na geriatria e pode amparar essa inserção em locais semelhantes.

Palavras-chave: Segurança do paciente. Assistência centrada no paciente. Equipe de assistência ao paciente. Prática farmacêutica baseada em evidências. Geriatria.

RESUMEN

Objetivo: Describir la experiencia de implementar la atención farmacéutica en una unidad hospitalaria geriátrica y proponer un protocolo instrutivo para la práctica.

Métodos: Informe de experiencia que se convirtió en el manual de la práctica de la atención farmacéutica en geriatria (MaP-CFarmaGeri) de un hospital brasileño y se estructuró en tres temas (1. Diagnóstico situacional; 2. Adecuación del procedimiento y prestación del servicio; 3. Ejercicio de práctica).

Resultados: El diagnóstico situacional comprendió el relevamiento de datos sobre la estructura de la sala y el perfil epidemiológico. Los servicios farmacéuticos ofrecidos incluyeron seguimiento farmacoterapêutico, conciliación de medicamentos y revisión de farmacoterapia. La certificación del contenido de este procedimiento fue certificada por especialistas de un equipo multidisciplinario y la técnica trató a más de 60 pacientes en la práctica, con buena aceptación por parte de los participantes.

Consideraciones finales: El MaP-CFarmaGeri demostró ser una estrategia satisfactoria en la implementación de la atención farmacéutica en geriatria y puede apoyar esta inserción en lugares similares.

Palabras clave: Seguridad del paciente. Atención dirigida al paciente. Grupo de atención al paciente. Práctica farmacéutica basada en la evidencia. Geriatria.

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■ INTRODUCTION

We are experiencing a period characterized by the triple burden of diseases, which cause hospitalizations/deaths due to infectious diseases, complications from chronic non-communicable diseases and from violence. Allied to all this, we have the demographic transition, with an increase in life expectancy and resulting in the protagonism of the elderly people. Longevity is accompanied by epidemiological and health changes and carries the need for readjustment of the health system, with strategies that meet the demands of this population⁽¹⁾.

Multiple chronic-degenerative diseases develop with aging and cause the incessant search for health technologies that can reverse these conditions, with medication being the most popular of these products⁽²⁾. However, the pharmacokinetics (absorption, distribution, metabolism, bioavailability, and excretion) and pharmacodynamics (physiological effects on the body) of medications also undergo changes in the elderly and the lack of understanding of these specificities is harmful⁽³⁾. The inappropriate use of medication is a public health problem and causes up to 15% of hospitalizations⁽⁴⁾.

The lack of multiprofessional integration in health care is associated with inadequate prescriptions, poor adherence to treatment, therapeutic ineffectiveness and the occurrence of adverse events resulting from unnecessary polypharmacy, which is considered a modifiable risk factor in these situations⁽⁵⁾. Polypharmacy is the routine and concomitant use of five or more medications by the same user⁽⁶⁾.

The Third Global Patient Safety Challenge announced the objective of reducing unnecessary polypharmacy, encouraging deprescription and aims to ensure that medications are prescribed in an appropriate way, that is, based on the best available evidence and that considers people's individual factors⁽⁵⁾.

The World Health Organization (WHO), in the document "The role of the pharmacist in the healthcare system"⁽⁷⁾, stated that the inclusion of pharmacists in health teams is essential to improve the health conditions of the population. Since then, the benefits of pharmaceutical care (PC), integrated in an interprofessional team, in obtaining better outcomes for people with chronic diseases are well described⁽⁸⁾.

The PC is defined as a "set of actions and services performed by the pharmacist professional considering the

conceptions of the individual, family, community and health team, focusing on the prevention and resolution of health problems, in addition to their promotion, protection, harm prevention and recovery, including not only the clinical-assistance dimension, but also the technical-pedagogical dimension of health work"⁽⁹⁾.

When considering the geriatric population, the PC must be guided by the Brazilian National Health Policy for the Elderly (*Política Nacional de Saúde da Pessoa Idosa*), which means that it must include a global, interdisciplinary, and multidimensional approach to promote autonomy, independence, and self-care⁽¹⁰⁾. However, the implementation of this practice has been an important challenge, due to the complexity of health institutions, the particularities of the elderly, costs and limited human resources. Besides, the incorporation of the PC in the services of the multidisciplinary team in geriatric hospital units (health area focused on the physiological and pathological aspects of the elderly people, including the clinical problems of aging and senility) is little widespread⁽¹¹⁾.

The elderly population, characterized by multiple and chronic morbidities, lack proactive, integrated and patient-centered health care. Scientific evidence reinforces beneficial and satisfactory outcomes (e.g., reduced hospitalization, bed occupancy rate and pharmacotherapeutic problems, as well as increased patient safety and satisfaction) arising from multiprofessional care, with shared decision-making, where the integration of pharmacists, nursing staff, physicians, and users themselves stand out⁽¹²⁻¹⁶⁾. Therefore, why not establish this workforce in a context with characters who have unmet and significant health needs? That is, in a geriatric hospital unit, also considering the lack of dissemination of PC services in this sector⁽¹¹⁾.

Through this perspective, the research question was generated: in order to be designed an instructional protocol, how could we conceive a satisfactory strategy (including the multiprofessional team and through the principles of person-centered care) for the insertion of the PC in a geriatric ward and what would be the contributions of this intervention to clinical practice?

The objective of the present study was to describe the experience of implementing the PC in a geriatric hospital unit and to propose an instructional protocol for the practice.

METHOD

Study design

The proposal for the elaboration of the instructional material of the practices performed in the inclusion of PC actions occurred through a descriptive study, with an experience report, conducted in the geriatrics ward of the *Hospital das Clínicas* of the *Faculdade de Medicina de Ribeirão Preto* of the *Universidade de São Paulo* (HCFMRP-USP), between August 2019 and January 2020.

The description of this study was structured according to national^(17–19) and international^(20–22) models already published, with the purpose of adhering to the standardized provision of experience reports.

Setting

The HCFMRP-USP is a highly complex education institution linked to the Brazilian public health system, the Unified

Health System (*Sistema Único de Saúde – SUS*). Geriatrics had important characteristics for the implementation of the project, considering the high risk of the elderly population for the development of drug-related harm. In this sense, it is understood that the present study complies with the recommendations of the global challenge of the World Alliance for Patient Safety (Medication Without Harm)⁽⁵⁾.

Procedure planning and characteristics

The process of systematizing this experience was organized into topics^(23–24), in order to structure an explanatory manual. The procedure consisted of the stages presented in Figure 1.

Considering that the PC actions, described in this protocol, were directed to meet the needs of the elderly, the proposal of this manual was suitable for hospital units and with a profile of care for this population (inclusion criteria). For services structured at another level of SUS health care and with specialties for a different audience (exclusion criteria), the PC needed to be shaped according to demand.

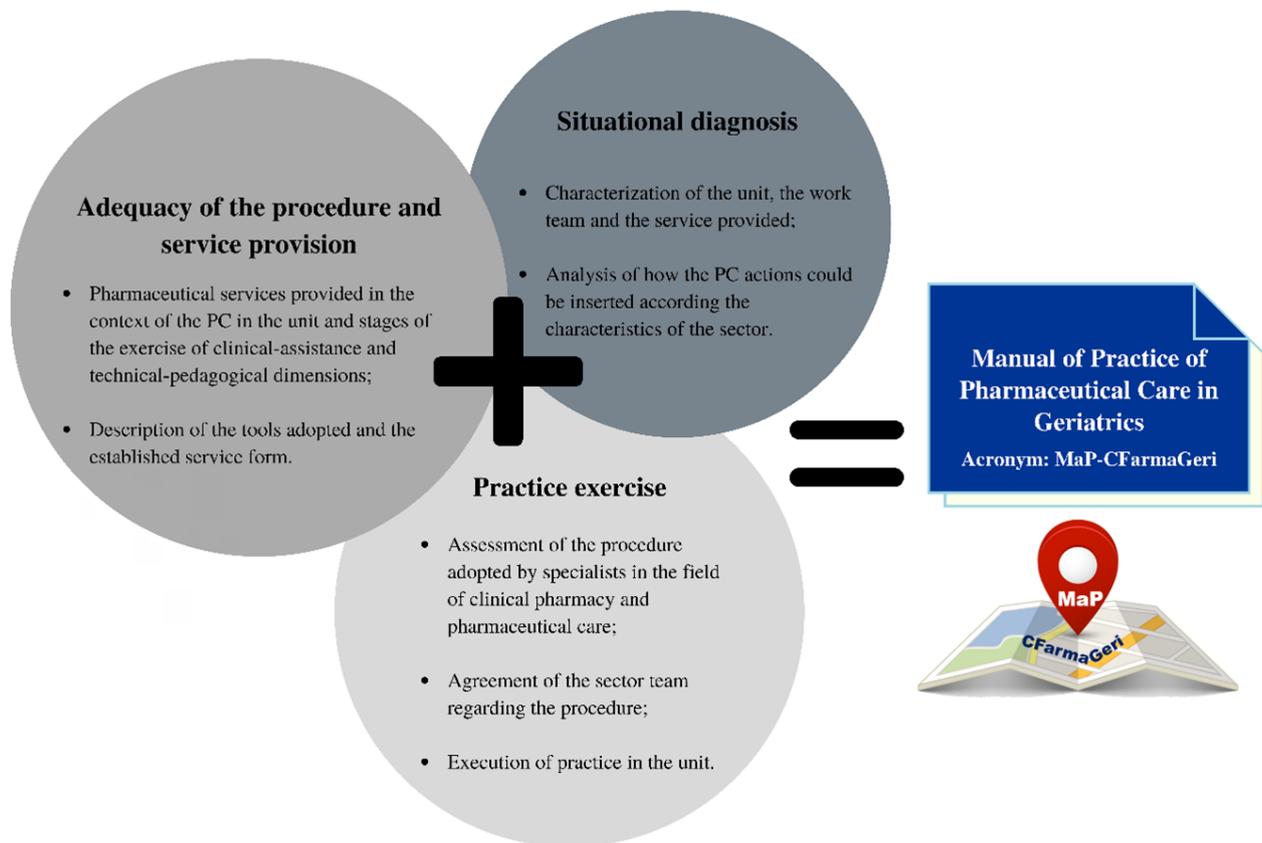


Figure 1 – Conception of the Manual of Practice of Pharmaceutical Care in Geriatrics (Acronym: MaP-CFarmaGeri). Ribeirão Preto, São Paulo, Brazil, 2019 a 2020

Source: The authors.

Legend: PC = Pharmaceutical Care; MaP-CFarmaGeri = Manual of Practice of Pharmaceutical Care in Geriatrics.

Ethical aspects

The research project was registered on the portal Brazilian Registry of Clinical Trials (ReBec; Registration No.: RBR-34f2px4). The study was approved by the Research Ethics Committees (REC) of the *Faculdade de Ciências Farmacêuticas de Ribeirão Preto* – USP and of the HCFMRP-USP (CAAE: 99298718.1.0000.5403 and 99298718.1.3001.5440, respectively).

■ EXPERIENCE REPORT

Situational diagnosis – Characterization of the unit

The situational diagnosis data were collected via the hospital's Human Resources Department and the FMRP-USP Clinical Medicine Department, of which geriatrics is a subspecialty:

- Population served: people aged ≥ 60 years old and with diseases caused by aging (e.g., chronic degenerative diseases);
- Total beds in the ward: 16;
- Average monthly hospitalization: 20;
- Institutional mortality rate (six months): 6.9%;
- Professionals working in the health care team: two assistant physicians, six resident physicians, 20 professionals from the nursing team, two nutritionists, a psychologist, a physical therapist, and an occupational therapist.
- Other information: the ward had an environment with access to computers, electronic medical records, and medical equipment.

These data based the routine planning of the PC actions, and, in addition, it was possible to direct the search in the literature for clinical tools that could meet the demand of users of the ward.

Professional aspects

The professional assigned to the development of PC actions had a degree in Pharmacy, a specialization in Clinical Pharmacy and Pharmaceutical Assistance and a master's degree in Pharmaceutical Sciences. In addition, had professional experience in the hospital and teaching areas.

As a training initiative and in previous way, the pharmacist followed, for a period of six months (from January to June 2019), the clinical pharmacist from the neurology ward of the same hospital. In this training, it was possible to get

used to the proposed location and to integrate with the norms and routines.

Adequacy of the procedure and service offered

A meeting was held with the geriatrics coordinating physicians, in order to present the work proposal and obtain their agreement. After the physicians' consent, they also contributed with the opinion of the areas in which the PC could work in the unit, given the existing routine and, for example, it was suggested the participation of the pharmacist in the meeting of the multidisciplinary team to discuss cases. In addition, the pharmacist was previously present at one of these meetings, in which it was possible to introduce himself to the team and explain the purpose of implementing the PC in the ward.

For the hospital management software, the pharmacist was given a private login and a page in the medical record so that he/she could take notes. When providing a recommendation, associated with the PC actions, an alert could be programmed, in the electronic medical record, for the other professionals of the team.

The pharmacist dedicated 8 hours a day to perform the PC, with 5 hours in the ward routine and another 3 hours dedicated to research and case studies.

Pharmaceutical services provided in the context of the PC: stages of the exercise of the clinical-assistance and technical-pedagogical dimensions

The PC actions in geriatrics were developed, addressing the clinical-assistance dimension and the technical-pedagogical dimension for users and work team.

In the clinical-assistance dimension, pharmacotherapeutic follow-up services were performed, including medication reconciliation and pharmacotherapy review⁽⁹⁾. The execution of pharmacotherapeutic follow-up in the ward, with the activities that constituted it, was subdivided into sections, and will be detailed below:

Invitation and reception: availability of pharmacotherapeutic follow-up after an active search by the pharmacist in the medical records of hospitalized individuals or upon request from one of the members of the geriatrics team. People who were polymedicated or who presented possible problems in their drug treatment, were in greater need of being consulted by the pharmacist. After selection, an invitation was made to participate in the consultation, with the presentation of the pharmacist and the objective of the follow-up, that is, to prevent or solve drug-related problems

(DRP), promoting accountability, in an agreement with the individual being cared for and with the health team, that the prescribed medication provides effectiveness and safety in the oriented dosage, as well as enabling the desired therapeutic outcome.

Information recording: the systematization of data obtained during the pharmaceutical consultation was based on SOAP⁽²⁵⁾ (Subjective and Objective data collection for later Assessment and organization of the Care Plan), which is characterized as the main process of documenting the provision of health care.

Collection of subjective and objective data: dealing with the elements of semiology, anamnesis was used, consisting of sociodemographic data and the patient's clinical history related to the use of medication (Figures 2 and 3). However, previously, a spatial-temporal orientation test⁽²⁶⁾, which addresses short and long-term memory, was applied to the participant to ensure the reliability of the reports (Figures 2 and 3). Thus, if the patient correctly answered at least three of the questions, he was considered able to report the required information. If the patient was considered unable, advisory sources were consulted to certify the data (caregiver, family member, hospital, or outpatient records).

At this stage, information about the medications that the patient was using at home was also described and then, it was conducted the medication reconciliation (Figures 2 and 3). The following sources of confirmation of medications being used at home were consulted: I. the patient him/herself, if able to answer; II. caregiver or family member; III. history of previous hospitalizations (access to hospital discharge prescription) or history in primary health care (information on the last care provided). To validate the information, it was necessary that at least two sources of confirmation agreed with the aforementioned data, to ensure the best possible medication history and the authenticity of medication reconciliation.

The list of medication prescribed in the hospital was daily updated and according to the medical prescription, in order to analyze the changes (Figures 2 and 3). The drugs were named according to the Brazilian Common Denomination (DCB) and the diagnosed diseases were described according to the International Statistical Classification of Diseases and Related Health Problems (ICD-11).

In this stage, all data referring to the physical examination, vital signs, pathological and laboratory tests belonging to the patient were also described, with the purpose of monitoring the interference (positive or negative) of the pharmacotherapy on these findings (Figures 2 and 3). This information

was collected from the medical record, on the initial day of follow-up and every day during hospitalization, through tests requested by the responsible physician and through the daily assessment of the nursing team (institutional procedures). Furthermore, the information was reported according to the medical terms used in health services in Brazil and the laboratory references adopted by the hospital.

Assessment: pharmacotherapy was reviewed to identify DRP (Figures 2 and 3) during the individual's hospitalization period. Then, it was investigated whether the medication prescribed was necessary and indicated for the health problem presented or if there was a need to add some drug for an untreated condition. In addition, it was certified that the drug treatment was being effective for the stabilization of the health status and being safe, that is, without occurrence of adverse reactions. There was also an assessment of the patient's understanding of their pharmacotherapy for home use, about the accessibility of medication and other parameters of treatment adherence. Therefore, the DRPs were categorized into Need/Indication, Adherence, Effectiveness and Safety⁽⁹⁾.

Assessments were performed at the beginning of the follow-up and whenever there were changes in the prescription or there was no improvement in any health condition.

To identify DRP, the best available clinical evidence was used as a theoretical framework. In addition, at this stage, an assessment was made of the reconciliation of medications that the participant was using at home with the prescription for hospitalization, according to the information obtained in the subjective and objective data section. The conciliation indicated intentional, intentional undocumented, and unintentional discrepancies (omissions, duplicities, contraindications, dosage errors, route errors, duration of treatment, dilution, infusion time, or dose interval). The instruments used to identify DRP, in compliance with the principles of evidence-based clinical practice, are shown in Figure 4.

Furthermore, based on the particular clinical condition of each person, the therapeutic protocols and reference guidelines were also consulted.

Care plan and resolution indicators: the care plan was organized to solve or prevent DRP, as well as to provide monitoring of the expected clinical outcomes (Figures 2 and 3). For each DRP identified, a recommendation was made for prevention or solution and, therefore, there was a singular conduction of actions and results. Plans were made whenever the assessment phase identified a need and for necessary maintenance.

SECTION 1 SPATIAL-TEMPORAL ORIENTATION TEST

1. What year are we in? Correct Wrong

2. What is the name of the city we are in? Correct Wrong

3. Where do you live? (City/location) Correct Wrong

4. Is it 'in the morning' or 'in the afternoon' now? Correct Wrong

Fit individual (three or more correct answers) Yes No Caregiver Hospital / outpatient records

SOCIODEMOGRAPHIC DATA AND CLINICAL HISTORY

Hospital admission date: / / Time: :

Initial date of pharmacotherapeutic follow-up: / / Time: :

Name: Medical Record No.:

Mother's name:

Date of birth: / /

Age: (in years)

Sex/Gender:

Race / Ethnicity: White Black African American American Indian or Alaska Native Asian

Marital status: Single Married Widowed Divorced Separated

City:

Telephone:

How many people live in the same house:

Household income (reais/month):

Education degree:

Occupation:

Feeding (meals/day):

Allergic (any substance): Yes No

Walking Yes No

Frequency of physical activity: (Times a week)

Cigarette (units/day):

Alcoholic beverage (doses/day):

Comorbidities [describe time to diagnosis]: [] [] []

Previous hospitalizations [diagnosis (date)]: [()] [()] [()]

Previous surgeries [procedure (date)]: [()] [()] [()]

Cause/reason for current hospitalization: | |

Complaints:

Subjective expressions pronounced by the individual (about the illness, treatment or hospitalization):

The pharmacist's subjective impressions (about the individual, conditions or treatment):

Adverse drug reaction historic :

Date	Associated drug	Reaction type	Duration	Conduct
<input type="text"/>				

Information sources: Own individual Caregiver or Family Previous admissions Primary Health Care Bottles/List of Medicines

MEDICATION RECONCILIATION

Medications in use before hospitalization (1st source of confirmation)					Medications in use before hospitalization (2nd source of confirmation)					Medications prescribed in current hospitalization - Date <input type="text"/> / <input type="text"/> / <input type="text"/> (Source: Medical Record)							
Drug	Route	Dose	Mode of use	Time of use	Recommendation	Drug	Route	Dose	Mode of use	Time of use	Recommendation	Drug	Route	Dose	Mode of use	Time of use	Recommendation
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Physical exam: Date: / /

Weight (Kg): Height (cm): Abdominal circumference (cm): Hip circumference (cm):

Vital signs, laboratory and pathological tests (Date: / / Time: h: min)

Body temperature (degree Celsius)	<input type="text"/>	°C
Blood pressure (millimeter of mercury)	<input type="text"/>	mmHg
Heart rate (beats per minute)	<input type="text"/>	bpm
Peripheral oxygen saturation (percentage)	<input type="text"/>	%
Pain - Visual Analog Scale (millimeters)	<input type="text"/>	mm
Blood glucose (milligrams per deciliter)	Fasting <input type="text"/> mg/dL	Postprandial <input type="text"/> mm/dL
Glycated hemoglobin - HbA1c (percentage)	<input type="text"/>	%
Creatinine (milligrams per deciliter)	<input type="text"/>	mg/dL
Others:	<input type="text"/>	

Figure 2 – Section 1 of the pharmacotherapeutic follow-up form template. Ribeirão Preto, São Paulo, Brazil, 2019 to 2020

Source: The authors.

Legend: Kg = kilogram; cm = Centimeter; H = Hours; Min = minutes.

SECTION 2

Medication reconciliation assessment

Discrepancies: <input type="radio"/> Intentional <input type="radio"/> Intentional not documented	Details and associated drugs: <input type="radio"/> Medical decision <input type="radio"/> Justified by the clinical situation Drug: _____ Details: _____	Discrepancies: <input type="radio"/> Not intentional	Details and associated drugs: <input type="radio"/> Omission <input type="radio"/> Dosage error <input type="radio"/> Dilution error <input type="radio"/> Dose interval error <input type="radio"/> Treatment duration error Drug: _____ Details: _____
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Algorithms and evaluation of organism functions

Body Mass Index - BMI (kg/m ²) <input type="checkbox"/> < 18,5 [Under weight]; <input type="checkbox"/> 18,5-24,9 [Recommended]; <input type="checkbox"/> 25,0-29,9 [Overweight]; <input type="checkbox"/> > 30 [Obesity].	Glomerular Filtration Rate - GFR CKD-EPI equation > Result: _____ Age (years) Average GFR(mL / min / 1,73 m ²) 60 - 69 85 > 70 75	Cardiovascular Risk Stratification (Dyslipidemias guideline) <input type="checkbox"/> Low; <input type="checkbox"/> Intermediary; <input type="checkbox"/> High; <input type="checkbox"/> Very high.
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PHARMACOTHERAPY REVIEW

Medications prescribed in current hospitalization - Date ____/____/____ (Source: medical record)						DRP			
Drug	Route	Dose	Mode of use	Usage time	Recommendation	Need / Indication	Adherence	Effectiveness	Safety

Observed problems: _____

References consulted that evidence the findings

- Dynamed® - Detail reference: _____
- Micromedex® - Detail reference: _____
- Beers Criteria - Detail reference: _____
- STOPP / START Criteria - Detail reference: _____
- Causality of ADR (WHO-UMC) - Detail reference: _____
- Therapeutic protocols and guidelines -Detail reference: _____

Date and Time of availability of care plan information in the medical record:

____/____/____ h: ____ min

Pharmacotherapeutic follow-up guidance	1 _____ 2 _____
Resolvability indicators	1 <input type="radio"/> Assessment of the improvement of the individual's conditions / vital signs <input type="radio"/> Laboratory / pathological tests Indicator Description: _____ Monitoring time: _____
	2 <input type="radio"/> Assessment of the improvement of the individual's conditions / vital signs <input type="radio"/> Laboratory / pathological tests Indicator Description: _____ Monitoring time: _____

Recommendation aimed at: Medical team Nursing team Other professionals: _____

The recommendation was accepted (maximum period of 48 hours): Yes No Partially - Justification: _____

The individual or family member/caregiver was informed about the recommendations: Yes No Date: ____/____/____

Expressions pronounced by the individual or family member / caregiver: _____

Figure 3 – Section 2 of the pharmacotherapeutic follow-up form template. Ribeirão Preto, São Paulo, Brazil, 2019 to 2020
 Source: The authors.
 Legend: Kg = Kilogram; mL = Milliliter; m² = Square Meter; min = Minute; CKD-EPI = Chronic Kidney Disease Epidemiology Collaboration; DRP = Drug-related problems; ADR = Adverse Drug Reaction; H = Hours; Min = minutes.

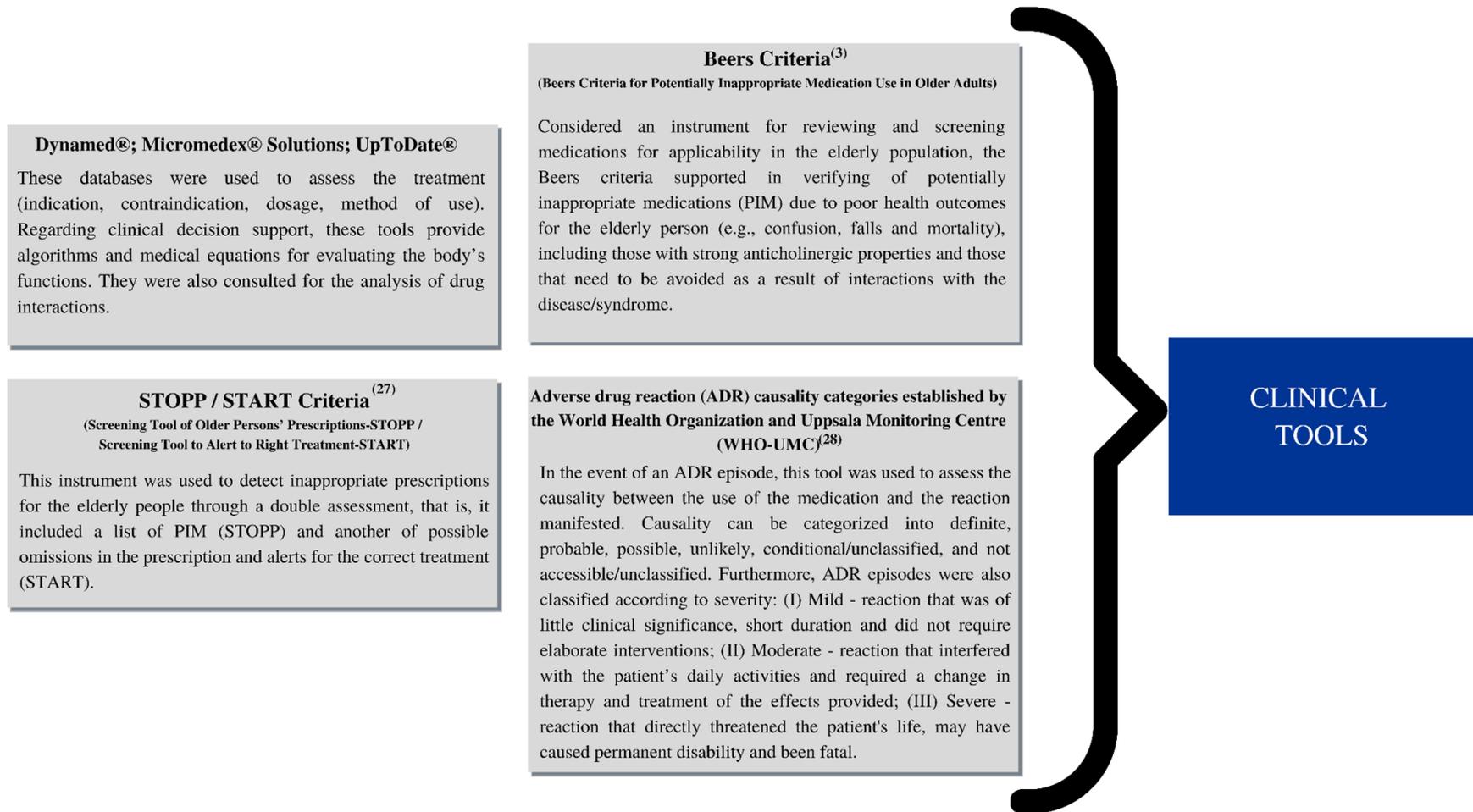


Figure 4 – Tools used, as a reference for evidence-based health practice, to support clinical decisions in relation to drug-related problems. Ribeirão Preto, São Paulo, Brazil, 2019 to 2020

Source: The authors.

Legend: PIM = Potentially Inappropriate Medication; ADR = Adverse Drug Reaction.

The plan followed the elements of evidence-based health. The tools available to support clinical decisions (Dynamed®, Micromedex®, UpToDate®, Beers Criteria, STOPP / START Criteria⁽²⁷⁾, therapeutic protocols, and guidelines), also structured the pharmacotherapeutic follow-up recommendations and, therefore, the conducts were designated by scientific literature and acquired clinical reasoning. In addition, the guidelines also included resolution indicators, that is, according to scientific evidence, one or more clinical parameters (vital signs, biomarkers verified in laboratory and pathological tests, analysis of the restoration of body functions, among others) were established to be supervised and, thus, it was possible to observe the effectiveness of the plan (e.g., control of blood pressure and/or blood glucose at levels established for the target population and in official guidelines).

The plan was made available in the patient's medical record, some pertinent guidelines were also reinforced via verbal contact with the professionals and after a maximum period of 48 hours, it was verified if the geriatrics team followed the conduct. In the event of non-approval of the recommendation and through relevant justification, other care proposals could be indicated, according to the evaluation of the arguments. Clinical cases, together with care plans, were also exposed in the ward's clinical meetings.

The suggested recommendations were scheduled to be agreed with the health team, with the patient and with family members or caregivers, in order to continue the principles of person-centered care.

Continuation of follow-up: in the internal patient transfer and at hospital discharge, medication reconciliation was performed again. The objective was to analyze the discharge/transfer prescription regarding its agreement with the clinical history prior to hospitalization and with the procedures performed during hospitalization. If any discrepancy was detected, contact was made with the prescribing physician.

The pharmacist approached the patient or family member/caregiver, personally and together with the multidisciplinary team, through an integrative dynamics of health education. The dynamics consisted of a synthesis of changes

associated with pharmacotherapy that occurred during hospitalization, among them, dosage changes, discontinuation, and new prescribed medication. Also, in relation to new medication, there was notification about the mode of administration, potential adverse events, adherence, and costs.

When possible, contact was also made with the professional responsible for the unit where the transfer would take place or with the primary health care service to which the patient was linked, for the acknowledgement of the conduct performed and the new demands of the patient.

In addition to the clinical-assistance activities of the PC, it is also worth describing the educational actions to promote the appropriate use of medication for health professionals and the community, that is, the execution of the technical-pedagogical dimension.

Didactic content was made available, based on the principles of evidence-based health and according to the manifestation or verification of demands. Chart 1 reports the systematized activities that were provided and the target audience for them.

Practice exercise

The PC in geriatrics was supervised by two pharmacists, professors at FCFRP-USP, with expertise in the areas of clinical pharmacy, pharmaceutical care, and patient safety. Consent was also obtained from three physicians, professors in the clinical medicine department at FMRP-USP. The nursing team and all geriatric professionals at the HCFMRP-USP were also aware of the procedure adopted for the implementation of PC in the unit and had the chance to give their opinion on it. Therefore, it was considered that the theoretical certification of the content was obtained.

Regarding the practice and execution of PC actions in the sector, between August 2019 and January 2020 more than 60 patients were followed up by the PC and, in addition, the participants demonstrated good understanding and acceptance of the technique. The procedure proved to be satisfactory for the proposed objective.

Target audience	Technical-pedagogical activities
<p>Health professionals</p>	<p style="text-align: center;">Examples of dialogic expository presentations</p> <ol style="list-style-type: none"> 1. Pharmacotherapy of pain in the hospitalized elderly patient; 2. Medications associated with the risk of falling; 3. Pharmacotherapy that contributes to the sexuality of the elderly and medications that interfere with this condition; 4. Insomnia treatment; 5. Management of delirium during hospitalization; 6. Pharmacotherapy of depression in the elderly population; 7. Assistance to people with dementia; 8. Drug-induced Acute/Allergic Interstitial Nephritis (AIN). <p style="text-align: center;">Informative material</p> <ol style="list-style-type: none"> 1. Aspects on tablet-splitting; 2. Drug administration via enteral tube.
<p>Health service users</p>	<p style="text-align: center;">Dialogical communication and informative material</p> <ol style="list-style-type: none"> 1. Health education related to pharmacotherapy (e.g., insulin preparation and application); 2. Information on reconciliation of discontinued and initiated medication; 3. Use of pictograms for the proper follow-up of the prescribed treatment.

Chart 1 – Actions of the technical-pedagogical dimension of pharmaceutical care carried out in geriatrics. Ribeirão Preto, São Paulo, Brazil, 2019 to 2020

Source: The authors.

Legend: AIN = Acute/Allergic Interstitial Nephritis.

FINAL CONSIDERATIONS

The present study described a successful real-life experience related to the insertion of pharmaceutical care at the service of the health care team and its implementation in a geriatrics ward. The planning and the MaP-CFarmaGeri obtained theoretical validation by other professionals who are part of the multiprofessional team and good acceptance by the patients followed up. In this sense, we understand that the MaP-CFarmaGeri can support the performance of pharmaceutical care in other geriatric units. On the other hand, tools designed specifically for the follow-up of elderly population were used, which limits the generalization of the instrument to other scenarios that involve different medical specialties.

Our study presents implications for clinical practice, since pharmaceutical care has a recognized potential to promote

the proper use of medication and improve the quality of life of people assisted. The study includes all priority areas of the global challenge of the World Alliance for Patient Safety, through which the World Health Organization encourages the conduct of research aimed at the dissemination of strategies for safety in the use of medication. In addition, by adopting evidence-based principles of health practice and by emphasizing the articulation of professionals in the system, MaP-CFarmaGeri has the potential to become a reference for multidisciplinary learning. Finally, there are implications for interdisciplinary practice, since pharmaceutical care promotes services (e.g.: pharmacotherapeutic follow-up, medication reconciliation and pharmacotherapy review) that are important support for other professionals, especially medical and nursing teams. Teamwork and conduct based on shared decisions favor the provision of more humanized and qualified health care.

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■ **Acknowledgements:**

To the professionals of the geriatrics ward of the HCFMRP-USP and the research participants, who voluntarily consented and contributed to the conception of this scientific evidence. To the Research Center in Pharmaceutical Care and Clinical Pharmacy (*Centro de Pesquisa em Assistência Farmacêutica e Farmácia Clínica – CPAFF*) at USP in Ribeirão Preto. To the funding agency Coordination for the Improvement of Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – CAPES*) that granted a scholarship to the author Alan Maicon de Oliveira [Process no.: 88882.328412/2019-01].

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The authors have no conflicts of interest to disclose.

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Received: 08.24.2021
Approved: 12.16.2021

Associate editor:

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Editor-in-chief:

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