

**Atenção farmacêutica no uso racional de medicamentos em Unidades Básicas de Saúde:
uma revisão sistemática**

**Pharmaceutical care in the rational use of medicines in Basic Health Units: a systematic
review**

**Atención farmacéutica en el uso racional de medicamentos en Unidades Básicas de
Salud: una revisión sistemática**

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Resumo

A Organização Mundial de Saúde (OMS) define a reação adversa à medicamento como uma reação nociva ou indesejada que se apresenta após a administração de um medicamento utilizado para prevenir ou tratar uma doença ou sintomas. O uso irracional de medicamentos é

um problema sério e está relacionado quando o paciente adquire medicamentos sem indicação ou orientações profissionais sobre seu uso. Isso acarreta uma exposição a problemas relacionados à medicamentos, bem como reações adversas, direcionando a população para unidades de Atenção Básica. Nesse contexto, há a necessidade da inserção do farmacêutico prestando serviços clínicos nessas unidades. O trabalho teve como objetivo realizar uma revisão sistemática da literatura de estudos sobre a Atenção Farmacêutica em Unidades Básicas de Saúde e os impactos sobre o uso irracional de medicamentos, bem como o papel do profissional farmacêutico nesse processo. Foram selecionados inicialmente 53 artigos das bases de dados SciELO, LILACS e BVS, onde apenas 2 artigos correspondiam aos critérios de inclusão da revisão. Evidenciou-se que o acompanhamento de um profissional prestando Atenção Farmacêutica e orientando os pacientes ao melhor uso de seus medicamentos recebidos na Atenção Básica é benéfica à saúde da população. Assim como esse profissional aumentaria o número de habitantes atendidos, além de reduzir a prática da automedicação. Ademais, os autores de ambos os trabalhos mostram também que a importância do farmacêutico na atenção básica atuando além da Assistência Farmacêutica, também em Atenção Farmacêutica, apresenta melhor gestão de recursos empregados à farmácia do município.

Palavras-chave: Automedicação; Atenção básica; Atenção farmacêutica; Farmacêutico; Revisão sistemática.

Abstract

The World Health Organization (WHO) defines the adverse reaction to the medication as a harmful or unwanted reaction that appears after the administration of a medicines used to prevent or treat a disease or symptoms. The irrational use of medications is a serious problem and is related when the patient purchases medicines with no indication or professional guidance on their use. This leads to exposure to problems related to medications, as well as adverse reactions, directing the population to Primary Care units. In this context, there is a need for the insertion of the pharmacist providing clinical services in these units. The work aimed to carry out a systematic review of the literature of studies on Pharmaceutical Care in Basic Health Units and the impacts on the irrational use of medicines, as well as the role of the pharmacist in this process. Initially, 53 articles were selected from the SciELO, LILACS and BVS databases, where only 2 articles met the inclusion criteria of the review. It was evident that the monitoring of a professional providing Pharmaceutical Care and guiding patients to the best use of their medicines received in Primary Care is beneficial to the health

of the population. Just as this professional would increase the number of assisted inhabitants, in addition to reducing the practice of self-medication. In addition, the authors of both articles also show that the importance of the pharmacist in Primary Care, acting in addition to Pharmaceutical Assistance, also in Pharmaceutical Care, presents better management of resources used in the municipality's pharmacy.

Keywords: Self-medication; Primary care; Pharmaceutical care; Pharmacist; Systematic review.

Resumen

La Organización Mundial de la Salud (OMS) define la reacción adversa al medicamento como una reacción dañina o no deseada que aparece después de la administración de un medicamento utilizado para prevenir o tratar una enfermedad o síntomas. El uso irracional de medicamentos es un problema grave y está relacionado cuando el paciente compra medicamentos sin indicación u orientación profesional sobre su uso. Esto conduce a la exposición a problemas relacionados con los medicamentos, así como a reacciones adversas, que dirigen a la población a las unidades de Atención Primaria. En este contexto, existe la necesidad de la inserción del farmacéutico que presta servicios clínicos en estas unidades. El trabajo tuvo como objetivo llevar a cabo una revisión sistemática de la literatura de estudios sobre Atención Farmacéutica en Unidades Básicas de Salud y los impactos sobre el uso irracional de medicamentos, así como el papel del farmacéutico en este proceso. Inicialmente, se seleccionaron 53 artículos de las bases de datos SciELO, LILACS y BVS, donde solo 2 artículos cumplieron con los criterios de inclusión de la revisión. Se hizo evidente que el monitoreo de un profesional que brinda atención farmacéutica y guía a los pacientes al mejor uso de sus medicamentos recibidos en atención primaria es beneficioso para la salud de la población. Así como este profesional aumentaría el número de habitantes atendidos, además de reducir la práctica de la automedicación. Además, los autores de ambos trabajos también muestran que la importancia del farmacéutico en la atención primaria, actuando además de la Asistencia Farmacéutica, también en la Atención Farmacéutica, presenta una mejor gestión de los recursos utilizados en la farmacia del municipio.

Palabras clave: Automedicación; Atención básica; Atención farmacéutica; Farmacéutico; Revisión sistemática.

1. Introduction

The irrational use of medicines is configured as one of the biggest public health problems worldwide, and it is estimated that more than half of all medicines are prescribed and/or dispensed inappropriately, therefore, most of them used incorrectly. This condition can trigger overuse or underuse of the medicine (WHO, 2010).

The World Health Organization (WHO) defines Adverse Drug Reaction (ADR) as a harmful or unwanted reaction that appears after the administration of a medication in therapeutic doses to prevent, diagnose or treat a disease or to modify some biological function. The occurrence of ADR has a causal relationship with the use of the drug, and it is estimated that it is responsible for approximately 6 % of hospitalizations, according to Pharmacovigilance Bulletin (2019).

According to Janebro et al. (2008), there are six drug-related problems (DRP) classified as: of necessity, where the patient suffers a problem as a result of not receiving a medication he needs (DRP 1) or the patient suffers a health problem as a result of receiving a medication you don't need (DRP 2); effectiveness, where the patient suffers a health problem as a result of a non-quantitative ineffectiveness of the medication (DRP 3) or the patient suffers a health problem as a result of a quantitative ineffectiveness of the medication (DRP 4); and safety, where the patient suffers a health problem as a result of a non-quantitative insecurity of a medication (DRP 5) or the patient suffers a health problem as a result of a quantitative insecurity of a medication (DRP 6).

DRP and ADR can arise from the irrational use of medicines, defined by the WHO as a practice when patients receive medicines for their clinical conditions in doses appropriate to their individual needs, for an appropriate period and at the lowest cost for themselves and the community, and thus, when purchasing drugs in a way where there is no indication or professional guidance on their use, the patient is exposed to such problems and adverse reactions (Aizenstein & Tomassi, 2011).

In this context, Pharmaceutical Care (PhC) can become one of the services used so that this public health problem can be mitigated, adapting to Pharmaceutical Assistance (PhA), formulated in 2004, already inserted in all spheres of government, being a set of activities comprising actions for the promotion, protection, recovery and prevention of individual and collective health. Thus, seeing the patient beyond the medication and offering the improvement of the population's life through the correct use of medication (BRASIL, 2004).

Such service has been improved to take the pharmacist beyond the management processes that involve this essential input and making it closer to the population through its insertion in primary care services, where a large part of the population seeks health services offered by the Unified Health System (Angonesi & Sevalho, 2010).

Since the population is initially assisted in primary care units, it is necessary to insert a pharmacist providing clinical services in such units (Alencar et al., 2014). Thus, the present study aimed to evaluate studies on Pharmaceutical Care in Basic Health Units and the impacts on the irrational use of medicines, as well as the role of the pharmaceutical professional in this process, through a systematic review.

Use o parágrafo como modelo

2. Methodology

The methodology was carried out based on the elaboration of a systematic review. It is a type of study considered as a secondary research, because it uses primary studies to interpret data, evaluate the quality of evidence and expand knowledge in references on a specific topic, being a critical study of the literature that uses methodological and systematized search criteria (Linares-Espinóis et al., 2018).

The systematic review was a qualitative methodology with interpretation and description by the authors regarding the data collected in the studies that answered the guiding question on the theme (Pereira et al., 2018). The interpretations of the information were guided by the analysis of thematic content, described in Minayo (2014), in which it reveals that this is the most appropriate type of analysis for the interpretation of material from articles on health.

2.1 Systematic literature search

This systematic review was carried out in accordance with the guidelines of the preferred reporting items for systematic reviews and meta-analyzes (PRISMA statement). In order to conduct this study, the following guiding question was considered: what are the consequences of self-medication by the population assisted by Basic Health Units and what is the role of the pharmaceutical professional in this process?

2.2 Search strategy and article selection

The research was carried out between March and May 2020 in different databases including all articles published in the last ten years until the end of May 2020. For the searches, the databases of the Virtual Health Library (BVS) were used, Latin American and Caribbean Literature in Health Sciences (LILACS) and Scientific Electronic Library Online (SciELO). The following terms were used in portuguese: ‘Atenção Farmacêutica’, ‘Uso Racional de Medicamentos’ and ‘Unidade Básica de Saúde’. In tracking publications, the logical operator “AND” was used in order to combine the terms.

2.3 Inclusion and exclusion criteria for studies

The selection of articles was carried out according to the search terms found in the titles and abstracts followed by selection and full reading of the articles in order to identify studies that met the inclusion and exclusion criteria. For that, the following inclusion criteria were considered: a) experimental studies which had as their theme the rational/irrational use of medicines in a basic health unit and pharmaceutical care; b) publication period from 2010 to 2020; and c) publications in portuguese.

Exclusion criteria were meta-analysis articles, systematic review, integrative review, literature review, monographs, dissertations, theses, conference abstracts, editorials, letters to the editor, duplicate articles and those that did not answer the guiding question that composed this study, also published articles earlier than the last 10 years.

2.4 Data extraction and analysis

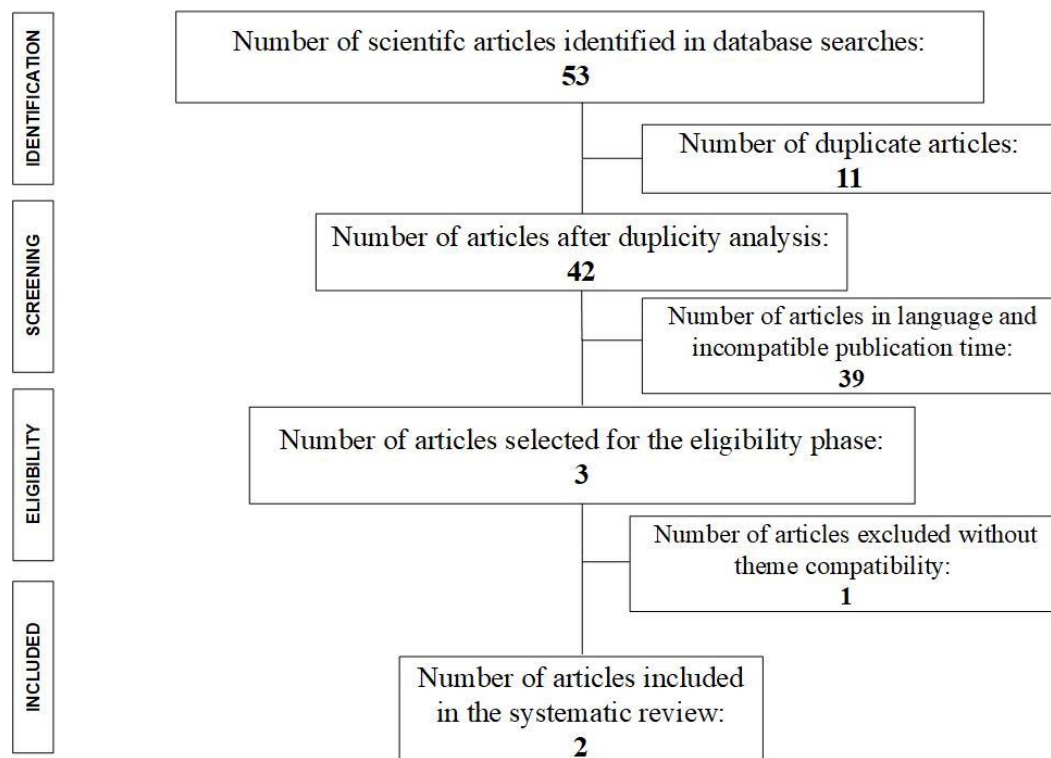
For the extraction and analysis of the data, three basic steps were used: pre-analysis, exploration of the material and treatment of the data with interpretation. The data were extracted manually and separated in a standardized form in tables, in which descriptive and quantitative analyzes were performed. The variables extracted from each article and included in the review were: authors and year of publication, beginning and end of the study, data analyzed, methodology, location and population served.

3. Results and Discussion

53 articles were selected in the SciELO, LILACS and BVS databases, with 10, 9 and 34 articles belonging to each database, respectively. Of these, 11 were duplicated and were excluded, leaving 42, where 15 did not meet the criteria for inclusion of language and period of publication with 27 remaining for reading the title and abstract. After this step, 24 articles were excluded and 3 were selected for the eligibility phase. At the end, only 2 articles met the inclusion criteria and went on to review after full reading.

The results of the research process are represented in the flowchart below for a better understanding of the systematized methodological criteria (Figure 1). The first pre-analysis step consisted of the phase of identification in the databases and selection of articles regarding duplicity, followed by the step of exploration of the material with the phases of eligibility and inclusion of articles that corresponded to the guiding question of the proposed thematic content, and finally, the treatment of the data of each article for the interpretation and critical discussion that make up the systematic review.

Figure 1. Flowchart of the steps for selecting the articles included in the systematic review.



Source: The authors (2020).

The selected articles were developed in Primary Health Care units and were comprehensive to male and female people, meeting the inclusion criteria dealing with Pharmaceutical Care. The main information of the articles such as the study period, the type of data analyzed, the methodology used by the authors, the location and the type and characteristics of population assisted in the study were extracted and are presented as highlighted in Table 1 and discussed in detail below.

Table 1. Characteristics and data of the articles included in the systematic review.

Author (Year)	Beginning of the study	End of study	Data analyzed	Methodology	Location	Population served
Alencar et al. (2014)	2010	2013	Data obtained through the team of Community Health Agents	Adaptation of the Dáder method and health education actions	Bahia (BA)	Elderly and adults, literate and illiterate
Melo & Castro (2017)	2007	2012	Prescriptions taken to the unit's pharmacy services	Educational actions in health	São Paulo (SP)	Elderly and adults, literate and illiterate

Source: Alencar et al. (2014) and Melo & Castro (2017).

According to Table 1, the study by Alencar et al. (2014), through activities developed in a university extension program, undergraduate Pharmacy students described their experiences, contributions and learnings on Rational Use of Medicines (RUM) working with the team and user of the Family Health Unit (FHU) in a neighborhood in the urban area of a municipality in the state of Bahia, which serves 3,027 users (adults and the elderly). They reported the absence of the pharmacist in Primary Care, since the pharmaceutical professional is not a member of the Health Team (HT) of the FHU, selected to carry out the extension project. However, Pharmaceutical Assistance (selection, programming, acquisition, storage and distribution) is competent in the unit and in Family Health Team (FHT) programs such as diseases as hepatitis, tuberculosis, leprosy and STD/AIDS.

Alencar et al. (2014) developed the study at FHU with a HT composed of a doctor, a nurse, two nursing technicians and nine Community Health Agents (CHA). Among the health services provided to this population, the dispensation of medications is included, also psychotropic drugs.

In the study by Alencar et al. (2014) home visits, thematic workshops, waiting rooms and scientific events were carried out in order to work on the RUM. During the process,

strategies were devised to address RUM in four spheres, namely: RUM for the elderly, psychotropic RUM, rational dispensation and rational prescription; and for the performance of this intervention, they adopted health education actions with the participation of users of health services, extension workers and HT. In these actions, they used brochures, posters, booklets, lectures, devices for packaging medicines, Therapeutic Form for Medicines and National List of Medicines (NLM).

Four thematic workshops were held on basic concepts related to medicines (medicine x medicine, reference medicines, generics and similar, psychotropic medicines and self-medication), dispensing, use of medicines by the elderly, packaging of medicines at home and disposal of medicines took place at the FHU (Alencar et al., 2014).

During the study, Alencar et al. (2014) observed failures in the dispensing of medications from the consultation of data from the CHA, as the activity was performed by a nursing technician without any prior information to the patient regarding the medication. Thus, they listed the needs and problems of the population regarding the use of medicines. From the home visits, they identified that there were drugs out of their expiration dates, drugs that were dispensed without guidance about their effects and that needed to be discarded, generating costs to public coffers which could be avoided through efficient management.

The presence of the pharmaceutical professional proved to be indispensable throughout the activities and soon he started to work in the dispensation, guiding patients on the proper use of medicines. As a result, there was a reduction in risks related to problems related to medications and better management with lower costs for municipal assets.

According to Table 1, Melo & Castro (2017) carried out a cross-sectional study in a primary care unit in the city of São Paulo with Ambulatory Medical Care (AMC) and Basic Health Unit (BHU) services with four FHT teams, in which 42,479 inhabitants are served. They reported that in 2007 a pharmacist was hired who joined the staff, but his attendance began to be recorded only in 2009. Therefore, the data obtained from clinical pharmaceutical services refer to the years 2010 and 2011, while the management ones are from 2007 to 2011.

In their research, Melo & Castro (2017) pointed out and described a series of actions, where results were presented regarding the pharmacist's performance in that unit. The pharmacist initiated interventions in the provision of the Pharmacy by making changes in physical areas of the pharmacy service, carrying out daily and weekly inventories according to the characteristics of each medication, exchanges between units, training of the team (four nursing assistants who were gradually replaced by pharmacy technicians) and with the

implementation of this measure the discrepancy in data between system and physical stock fell from 93 % (2007) to 1.3 % (2011).

Then, in the study and intervention stage to improve the standard of medication prescriptions, the prescriptions received by the pharmacy service were analyzed to list the main barriers to accessing medications through data collected, such as: origin, number of prescription items, prescription medicines, medicines that belonged to the Municipal List of Essential Medicines (REMUME) and dispensed medicines. Therefore, they observed that with the evaluation of these data there were barriers such as the prescription of medicines that do not belong to REMUME, the lack of prescription medicines, prescriptions for the treatment of expired chronic conditions, medicines belonging to REMUME that are out of stock and technical irregularities in the prescriptions (Melo & Castro 2017).

Resolutive measures were adopted for these problems, such as better stock management, scheduling, acquisition, instructional actions in partnership with the entire HT and dissemination of REMUME and the prescriptions fully met went from 68.3 % to 87.3 %. Thus, it was possible to provide the service directly to users, as their limitations and needs regarding the unit's pharmaceutical services were already known with the elaboration and adoption of a method for guiding patients with polypharmacy (Melo & Castro 2017).

A standardized method was used to assist polymedicated patients to differentiate medications by pictograms that represented periods of the day, where of the 712 patients seen in 2011, 82 % returned and this proved to be a good measure of adherence to pharmacotherapeutic treatment. Thus, promoting RUM and also the clinical pharmaceutical services using an adaptation of the darder method in the pharmacotherapeutic follow-up, where the pharmacist started to consult and the clinical services developed by him, and using the Pearson chi-square test obtained 95 % acceptance. The pharmacist joined the multidisciplinary health team, making recommendations to the prescriber, developing health education activities and working in programs that serve diabetics, hypertensive patients, and smokers (Melo & Castro 2017).

In view of the data presented, the importance of the pharmacist's role in promoting the RUM is observed. Therefore, the accompaniment of a professional providing pharmaceutical care and guiding patients to the best use of their medicines received in Primary Health Care is beneficial to the health of the population and this professional, at the service of the population would increase the number of inhabitants served and could reduce the practice of self-medication, thus reducing the problems related to recurrent drugs in our country.

In addition, the authors show in their studies the importance of the pharmacist in primary care, acting in addition to Pharmaceutical Assistance, also in Pharmaceutical Care, it presents better management of resources used in the municipality's pharmacy, since it optimizes the use of these essential inputs avoiding costs with medications that can have optimized dosage and not being lost, due to improper dispensation or expiry date, on BHU or FHU shelves or even in the homes of users of the Primary and Primary Health Care services.

4. Conclusion

The review highlighted how irrational medicine use and drug-related problems have become public health problems. The relevance of pharmaceutical monitoring to patients in the Public Health System and Primary Care, who are assisted in basic health units and family health units, became evident. Pharmacists should act to complement the health network in the prevention and promotion of individual and collective health, guiding patients and increasingly seeking knowledge, information and integration in health teams on behalf of patients. Considering the benefits of medicines and also complications that only improper use can bring, Pharmaceutical Care based on the rational use of medicines avoids expenses with hospitalizations, diagnoses and resources for the purchase of medicines that do not meet the population's needs.

As the number of studies was reduced, this work is relevant, as it reinforces the need for studies in the scope of pharmaceutical care for the population that uses primary health care services in the context of the rational use of medicines.

As perspectives for future research, additional studies on the rational use of pharmaceuticals based on Pharmaceutical Care should be conducted, which would help to provide important research data that indicate the scenario of drug-related problems in Brazil and how the pharmacist's intervention can reduce the incidence of this public health problem.

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