Original Paper

Evaluation of a semi-structured model for the medication therapy management record in the hospital setting

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Abstract

Introduction: The record of the activities performed by the health professional should compose the patient's medical record, whose fundamental role is communication. One way to make registration easier is to create semi-structured models. **Objective**: To evaluate the applicability and reproducibility of a semi-structured model for the medication therapy management record in hospitals. **Methods**: A convenience sampling of fifteen clinical pharmacists working in public hospitals in Minas Gerais was used. The participants received the semi-structured model for medical record and detailed report of two simulated clinical cases. The records made by each participant were compared to a standard record - template and the verification items were evaluated and categorized into: 1- compliant, 2- partially compliant, and 3- non-compliant. Participants also answered an electronic questionnaire with questions related to clinical experience and training. The main variable evaluated was the compliance percentage, considering the total of items evaluated. And for all variables under study, absolute and relative frequency were determined. The influence of the participants' individual characteristics was univariate analyzed. **Results**: Most of the group (58%) had been graduated in Pharmacy for over ten years and most (83%) reported having been trained in the clinical area. The characteristics of the participants did not affect the results obtained. The overall compliance percentage showed a good performance of pharmacists using this model (76%) and most participants considered the model to be highly applicable / useful (75%). **Conclusion**: The high percentage of compliance achieved demonstrates that the semi-structured medical record model developed in this study was considered applicable by most participants, who also had a good performance in its use, and may be a starting point for other pharmacists and services to develop their own models, adapted to the reality of each service.

Keywords: Electronic Health Records, Pharmaceutical Services, Clinical Pharmacy Information Systems.

Avaliação de um modelo semiestruturado para registro do acompanhamento farmacoterapêutico no âmbito hospitalar

Resumo

Introdução: O registro das atividades realizadas pelo profissional de saúde deve compor o prontuário do paciente, cujo papel fundamental é a comunicação. Uma maneira de facilitar o registro é a criação de modelos semiestruturados. **Objetivo**: avaliar a aplicabilidade e reprodutibilidade de um modelo semiestruturado para o registro acompanhamento farmacoterapêutico no âmbito hospitalar. **Métodos**: Foi utilizada uma amostragem por conveniência de quinze farmacêuticos clínicos atuantes em hospitais públicos de Minas Gerais. Os participantes receberam o modelo semiestruturado para registro em prontuário e o relato detalhado de dois casos clínicos simulados. Os registros realizados por cada participante foram comparados a um registro padrão – gabarito e os itens de verificação foram avaliados e categorizados em: 1- conforme, 2- parcialmente conforme, e 3- não conforme. Os participantes também responderam a um questionário eletrônico com perguntas relacionadas à experiência e formação clínica. A principal variável avaliada foi o percentual de conformidade, considerando o total de itens avaliados. E para todas as variáveis em estudo foi realizada a apuração de frequência absoluta e relativa. A influência das características individuais dos participantes foi analisada de forma univariada. **Resultados**: a maioria do grupo (58%) era formada em Farmácia há mais de dez anos e grande parte (83%) relatou ter realizado capacitação na área clínica. As características dos participantes não afetaram os resultados obtidos. O percentual de conformidade global demonstrou um bom desempenho dos farmacêuticos no uso desse modelo (76%) e a maioria dos participantes considerou o modelo com alto grau de aplicabilidade/utilidade (75%). **Conclusão**: O alto percentual de conformidade alcançado demonstra que o modelo semiestruturado para registro em prontuário desenvolvido nesse estudo foi considerado aplicável pela maioria dos participantes, que também tiveram um bom desempenho em sua utilização, podendo, assim, ser um ponto de partida para que outros farmacêuticos e serviços possam desenvolver seus próprios modelos, adaptados à realidade de cada serviço.

Palavras-chave: Registros Eletrônicos de Saúde, Assistência Farmacêutica, Sistemas de Informação em Farmácia Clínica.

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Introduction

Pharmaceutical care was defined for the first time by Hepler and Strand as "the responsible provision of pharmacological treatment for the purpose of achieving concrete results that improve the quality of life for the patients"[1]. It is considered a professional model of cooperation between pharmacist, patient and other health professionals for disease prevention, health promotion and recovery. In this context, the clinical pharmacist takes responsibility for meeting the pharmacotherapeutic needs of the patients in order to identify, prevent and/or solve their problems related to the use of medications (or Drug-Related Problems, DRP)[2,3]. A widely used method for performing pharmaceutical care is the *Pharmacotherapy Workup* (PW), which assists the pharmacist in making decisions regarding pharmacotherapy[4].

Different services centered on the patient, family and/or community can be offered by clinical pharmacists, with health education, medication reconciliation and health condition management being the most common in the hospital environment. The implementation of the pharmacotherapeutic follow-up (PFU) service continues to be a major challenge, mainly because it is a robust service that allows other clinical activities to be carried out during the patient's follow-up process[5], a characteristic that contributes to its complexity. In addition, pharmacists report great difficulty related to the documentation of the care provided[5,6]. Despite this, data from the literature show that these services have been promoting positive results, both at the outpatient and at the hospital level[7-12]. A descriptive study carried out in a coronary care unit in a large hospital identified 350 DRPs in the eight-month period, the main one being related to the indication (40.3%), with 81.5% of interventions accepted by the team, the that reinforces the need for the implantation and expansion of pharmaceutical clinical services[13].

Resolution No. 585/13 of the Federal Pharmacy Council (*Conselho Federal de Farmácia*, CFF), which regulates the pharmacist's clinical duties, promoted subsidy to the clinical practices of, including their registration in the patient's medical record[14]. According to this standard, the pharmacist must proceed with the pharmaceutical evolution, which aims to document the interventions and the care provided, providing continuity of service and communication between the members of the health team[5,14].

This regulation meets the recommendations of scholars in this area. According to Ramalho-de-Oliveira, in ethical terms, care cannot be provided without a detailed record of what occurred in the medical record[3]. Actions that aim at the safety and effectiveness of medications, as well as those that can affect the patient's clinical outcomes, are also considered fundamental and should be recorded[15]. Thus, the recording of the activities performed by each health professional must compose the patient's record.

Due to the volume of information obtained during the performance of the clinical activities, a semi-structured record format facilitates documentation. One of the most used by health professionals is SOAP, which covers collection of **S**ubjective and **O**bjective data, an **A**ssessment of the patient and the elaboration of a **P**lan.[16] In the pharmaceutical field, it comprises the clinical and drug history of patients, existing health problems, problems related to drugs, interventions performed and care plan for each health problem with the definition of goals to be achieved, in addition to exploring the patient's experience with medications[16,17].

During the implementation of a service, the pharmacist must consider the various functions that the documentation can perform, such as communication between team members, research, and also be a tool for preventing errors and determining the co-responsibility of all those involved in the assistance[18-20]. Furthermore, it is a practice that favors continuity of care, as the information remains available to everyone and provides legal support in any legal circumstances, since the legislation recognizes the pharmacist's clinical duties[14]. It also allows to evaluate and optimize clinical, financial and humanistic outcomes, monitor the patient's evolution, measure the quality of the services offered, the results obtained and, thus, guide the necessary improvements[16,21].

Therefore, the importance of structuring the documentation process in the different areas of performance of the clinical pharmacist is emphasized[15,16]. In addition to this, the scarcity of the subject in the current literature reveals the need to create standardized instruments to assist the registration of clinical pharmaceutical activities and that, still, allows for the development of systematic clinical thinking even at the time of documentation, considering that the patient receives the most indicated, effective, safe and convenient pharmacotherapy. Given this demand, the objective of this paper was to evaluate the applicability and reproducibility of a semi-structured model for recording clinical pharmacy activities in the hospital setting.

Methods

Study participants (population/sample)

A convenience sample was made of fifteen pharmacists who worked as clinical pharmacists in full or in parallel to other technical-care activities, coming from nine different public hospitals in Minas Gerais with different care profiles, their number of beds ranging between 120 and 800, and that provide medium and high complexity care to the Public Health System. These pharmacists had different levels of experience in the scope of pharmaceutical care, with regard to clinical training, length of experience in the function and areas of activity. None of them was familiar with the semi-structured model for registration under analysis.

These pharmacists were invited to participate voluntarily in the research through the electronic submission of the invitation and the Free and Informed Consent Form.

Development of the semi-structured recording model in a medical chart of the pharmacotherapeutic follow-up in a hospital setting

The semi-structured model for recording in medical records, which constitutes the central object of evaluation of this research, is derived from SOAP. This derivation is due to the fact that SOAP is the most used structured model among health professionals, which can facilitate communication between the pharmacist and the other team members[16].

In order to organize all the stages of care provided by the pharmacists, the semi-structured model groups the information obtained about the patients in the following sessions: 1- General picture: objective and subjective data collected in the pharmaceutical anamnesis relevant to the composition of the patient's clinical history; 2- Pharmaceutical evaluation: analysis of pharmacotherapy for each clinical condition, with a description of the therapeutic objective, of the parameters of effectiveness and safety available for the drugs in use, of the DRP (if any) and of the clinical and pharmacotherapeutic situation (CPS); 3- Conducts: proposals for intervention with the patient and/or the multidisciplinary health team. In addition, there is a difference between the first appointment and the sequential appointments, in which the first is made up of all the information obtained related to the patient, the medications in use and the possible DRPs found. The others present only the changes that occur during the pharmacotherapeutic follow-up.

This model was tested preliminarily in three hospitals with very different care profiles. The pharmacists who participated in this initial test made suggestions for improving its structure until the final model presented in Appendix A was obtained.

Elaboration of the simulated clinical cases and of the standard record

Two simulated clinical cases were prepared by the researchers, the first in the Intensive Care Unit and the second in the Medical Clinic Ward, as briefly described below:

Simulated clinical case No. 1: Patient A.S., male, 60 years old, run over victim, initially seen in the emergency room and then transferred to the Intensive Care Unit (ICU) sedated and intubated. During the pharmaceutical anamnesis, data was collected from the multidisciplinary team and from the medical records. After the initial assessment of the patient, the clinical pharmacist in the sector identified 3 DRPs, for which the following procedures were defined with the multidisciplinary team: introduction of omeprazole to prevent stress ulcers due to the presence of risk factors (polytrauma, mechanical ventilation); suspension of enoxaparin due to the presence of thrombocytopenia and increased risk of bleeding; replacement of cefepime with piperacillin + tazobactam, due to the impossibility of monitoring the risk of neurotoxicity in a sedated patient. In the second visit, the pharmacist observed clinical improvement in all health conditions and did not identify new DRPs.

Simulated clinical case No. 2: Patient E.C.S., 72 years old, female, admitted to a clinical ward due to acute chest pain. During the pharmaceutical anamnesis, he provided data on his past clinical history, medications for home use, subjective experience with medications, among other important information. At the end of the first appointment, the clinical pharmacist identified 3 DRPs and, after discussing the case with the prescriber, the following procedures were defined: introduction of spironolactone for blood pressure control; increasing the dose of carvedilol to reduce heart rate and help control blood pressure; and changing the dipyrone prescription to fixed times, due to the patient's pain complaint. In the second visit, the pharmacist found a clinical improvement in

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the health conditions evaluated in the first visit and identified a new DRP, for which he suggested the introduction of the drug zolpidem in pharmacotherapy to treat a new complaint reported by the patient.

Considering the data of these cases and the semi-structured model for medical record, the researchers developed a standard record for each simulated case. This standard record contained all the elements that were expected to be documented by a pharmacist in a real clinical setting for monitoring these two cases, thus functioning as a template. These elements, in this research, called "verification items", were the main object of analysis in this study to verify the performance of pharmacists in using the model. The standard record of simulated case 1 consisted of 64 verification items, while the standard record of simulated case 2 contained 62 verification items, totaling 126 verification items.

Study procedures

Pharmacists who agreed to participate in the study received two documents by email: 1- A semi-structured model for medical record (Appendix A) and 2- A detailed report of the two simulated cases, including all patient data, problems identified by the pharmacist and the procedures discussed and implemented to solve each problem. Then, the research participants were asked to document the two cases, considering the guidelines of the proposed model. Each participant had approximately fifteen days (between December 2018 and January 2019) to register the two simulated cases, independently and confidentially.

At the end of this period, the simulated record made by each participant was compared to the standard record (template) previously prepared by the researchers. In this comparison, each of the verification items was evaluated and categorized into: 1- compliant (the item exactly corresponded to the standard record - template, indicating that the instructions were fully understood), 2- partially compliant (the item partially corresponded to the standard record - template, usually due to the omission of some information, which indicates a good level of understanding of the instructions by the participants) and 3- non-compliant (the item was not documented or did not correspond to the standard record - template, indicating that the instructions were not understood). The judgment and categorization of these verification items were made by two clinical pharmacists independently and the cases of disagreement were submitted to the analysis of a third pharmacist with greater experience for final decision.

After completing the records, the participants also answered an electronic questionnaire that contained questions related to experience and clinical training, for the purpose of characterizing the group, and questions aimed at assessing their perception of the applicability of the study model under study, difficulty in its use and its importance for the organization of pharmaceutical care.

Study variables

The main variable evaluated in the study was the percentage of compliance between the simulated record performed by the participants and the standard record - template, considering the total of items evaluated. This percentage was calculated as described below:

Percentage of compliance = Number "compliant" of items / Total number of items evaluated x 100.

The following descriptive variables were also evaluated: training time (years), clinical experience (years), clinical training at graduation, clinical training in improvement courses, degree of applicability of the model, degree of difficulty in using the model and degree of importance of model.

Statistical analysis

For all the variables under study, the absolute and relative frequencies by category were calculated using the Excel program, version 2010. The results related to the percentage of compliance were presented globally, that is, considering the performance achieved by all the participants in both cases; by clinical case, to assess the performance of the group in each case, and also individually for each participant.

The comparison of the percentage of compliance (quantitative variable) with the training/experience in clinical pharmacy (categorical variables) was performed using the Kruskall-Wallis test. These analyses were performed using the EpiInfo software, version 7.1.2, with a level of statistical significance set at 5%.

Research Ethics Committee

The project was approved by the Research Ethics Committee, under CAAE No.: 3.009.345.

Results

Of the fifteen hospital clinical pharmacists who were invited to participate in the study, two did not respond to the initial contact and one did not meet the deadline for submitting responses, leaving twelve participants. The majority of the group has had a Pharmacy training period of more than 10 years (58%), has worked as a clinical pharmacist for more than 2 years (67%), reported having completed some training in the clinical area in the last 2 years (83%) and attended some clinical discipline at graduation (58%). These results are available in Table 1.

Table 1. Characteristics of the participants as regards professional training

Variable	No. of answers (%)
Training time in Pharmacy	
< 10 years	5 (42)
> 10 years	7 (58)
Time of active performance as a clinical pharmacist	
< 2 years	4 (33)
> 2 years	8 (67)
Clinical subjects during graduation course	
Yes	7 (58)
No	5 (42)
Training in the Pharmacy area	
Yes	10 (83)
No	2 (17)

The other questions in the questionnaire were related to the semi-structured registration model, which was the object of this study; and the majority of the participants considered the model to have a high degree of applicability/utility (75%). The answers are available in Table 2.

Table 2. Assessment of the participants as regards the semi-structured recording model

Variable	No. of answers (%)
Preference regarding the registration of pharmaceutical anamnesis	
Semi-structured form with open fields	11 (92)
Free documentation without any forms	1 (8)
Degree of difficulty of the recording in the semi-structured model (varying from 1 to 10)	
Little difficulty (1 to 3)	7 (58)
Medium difficulty (4 to 7)	3 (25)
High difficulty (8 to 10)	2 (17)
Degree of applicability/usability of the recording in the semi-structured model (varying from 1 to 10)	
Little applicability/usability (1 to 3)	1 (8)
Medium applicability/usability (4 to 7)	2 (17)
High applicability/usability (8 to 10)	9 (75)

Among the participants, there was unanimity in recognizing that the creation of models that assist in the registration of clinical activities is very important for the organization of services. Through the justifications presented, 75% of the participants pointed out that registration is a fundamental part of the care of all professions, allows the measurement of results of clinical pharmaceutical practice and contributes to the formation of the profession's identity in health services, while 67% pointed out that the registration contributes to the flow of information among the professionals of the multidisciplinary team and to the recognition of the profession in the health services.

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When comparing the simulated record performed by the participants with the standard record - template, a total of 1,512 items were evaluated (considering the records made by the twelve participants in both cases), 768 referring to case 1 and 744 referring to case 2. The percentage of global compliance, considering the sum of the results obtained for cases 1 and 2 from the simulated record performed by the twelve participants, was quite expressive, reaching 76% (1,156 items out of a total of 1512), as can be seen in Figure 1 and Table 3.

Figure 1. Result of the percentage of global compliance regarding the registration of the two simulated clinical cases
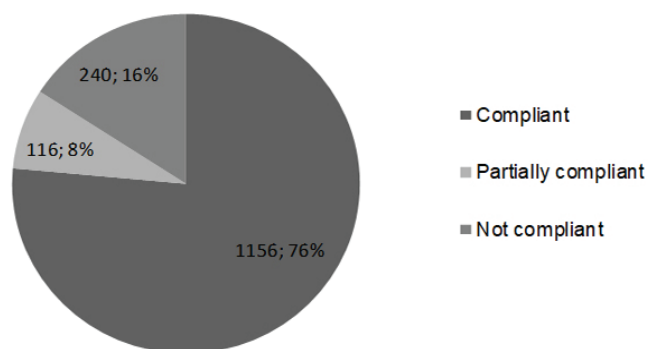
Incorporating the "partially compliant" category to this result, since it also reflects a good level of understanding of the instructions, the percentage of global compliance is even higher, reaching 84%.

Table 3. Percentage of compliance referring the recording of each simulated case

Cases	Compliant		Partially compliant		Not compliant		Total of items evaluated
	n	%	n	%	n	%	
Simulated Case 1 (total)	612	80	44	6	112	14	768
Simulated Case 2 (total)	544	73	72	10	128	17	744
Total	1156	76	116	8	240	16	1512

Table 3 presents the detailed results of this analysis for each simulated clinical case. For simulated case 1, which included the intensive care setting, out of a total of 768 items evaluated, 80% were considered to be compliant, 6% partially compliant and 14% not compliant. As for simulated case 2, whose scenario was a medical clinic ward, the percentage of compliance was lower, 73% of the 744 items assessed.

The analysis of the results obtained individually by each of the 12 participants reveals that half of the group reached a percentage of global compliance above 80%, while the other half reached results between 60 and 80% (Table 4).

In the study of the influence of the characteristics of the participants in the results obtained, through univariate analysis it was observed that the time of experience in clinical pharmacy did not affect the percentage of compliance (p=0.1244), as well as improvement in some area of clinical pharmacy (p=0.1950).

The time of training in Pharmacy and the fact of having attended clinical disciplines during graduation also did not influence the results obtained (p=0.6243 and p=0.2531, respectively). Of the seven participants trained more than 10 years ago, four (57%) achieved a compliance rate above 70%. And, of the total of participants, the majority (58%) took some clinical discipline at graduation and obtained a percentage of compliance between 61 to 89%.

Table 4. Result of the percentage of global compliance reached individually by each study participant considering the total items of verification of the two simulated cases

Participants	Compliant		Partially compliant		Not compliant		Total of items evaluated
	N	%	N	%	N	%	
A	103	82	14	11	9	7	126
B	112	89	5	4	9	7	126
C	86	68	12	10	28	22	126
D	111	88	9	7	6	5	126
E	102	81	9	7	15	12	126
F	87	69	15	12	24	19	126
G	77	61	12	10	37	29	126
C	81	64	7	6	38	30	126
I	86	68	6	5	34	27	126
J	102	81	7	6	17	13	126
K	111	88	8	6	7	6	126
L	98	78	12	10	16	13	126
MEAN VALUE	96	76	10	8	20	16	126

Discussion

The recording of the clinical activities of the pharmacist must compose his routine in any setting and with any service offered. Research studies carried out on the subject found results that reinforce the importance of this practice and describe advantages such as patient safety, promoting the rational use of medicines and providing resources for patient care[22,23].

In one of them, 68.4% of the nineteen participants, they stated that the pharmacist must evolve all of his clinical activities in medical records; however, this same percentage of participants is unaware of models for evolution in medical records. Although the SOAP method was mentioned, the research did not propose any instrument that serves as a basis for the registration[23]. In another survey, the pharmacists stated that the lack of systematization and standardization of processes is one of the main difficulties to perform clinical activities[24].

In this context, Pullinger & Franklin[22] pointed out that most studies on the documentation of the multidisciplinary team in hospitals did not find records of pharmacists and, of those that were performed, most did not include all information from pharmaceutical care. In addition, even when they knew what, when and how to register in the medical record, most of them presented the need to receive training, as those who were trained, demonstrated accuracy and quality in the documentation. In this way, the creation of models that assist in the execution of this step can be useful.

These data reveal a gap that still exists in the practice of the clinical pharmaceutical services. Based on this, semi-structured models can encourage professionals to incorporate the recording of activities into their routine. And, given the difficulty regarding this practice, the result obtained in this study, related to the percentage of global compliance regarding the documentation, indicates a good performance of the pharmacists in the use of this model, demonstrating that it can be applied to record the pharmacotherapeutic follow-up in the hospital setting.

With regard to communication and the flow of information, it should be noted that the documentation of the care provided by the various health professionals is essential to ensure continuity of care and to establish the identity of the profession, in addition to being a way of delimiting the activities inherent to each team member[15].

In the case of the pharmacists, who are co-responsible for making decisions related to pharmacotherapy, it is important to record the evaluation of the medications in use based on the health conditions presented by the patients, the indication and therapeutic objective of each medication in use, the identification of DRPs and the conducts to solve them[15,21]. This structure aims to avail the information related to pharmacotherapy to other team professionals, seeking comprehensive assistance.

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The registration of the pharmacist's clinical activities in the medical record provides greater integration of this professional to the rest of the multidisciplinary team and favors more efficient care, minimizing therapeutic duplications, medication errors, use of unnecessary medications, omission of previous pharmacological treatments and contributing to the reduction of costs.[5]

Escobar et al[25] confirms these findings by stating that the information available through the registration of activities promotes the contribution of the pharmacist in the care of patients and that these must be included in the multidisciplinary and institutional records. In this way, it is possible to identify and define the pharmacist's responsibilities related to the care process.

The higher percentage of compliance presented in case 1 can be justified by the pharmacists' familiarity with the ICU protocols, since this was the environment where the clinical pharmacy grew most after the publication of RDC No. 7/2010. This resolution determines pharmaceutical assistance as a service to be offered at the bedside[26], this being, generally, the first place where the pharmacist begins his clinical activities.

The analysis of the results obtained individually by each participant reinforces the good performance of the group in the use of the model proposed in the study. A possible explanation for this result may be related to the profile of the participants, clinical pharmacists working in hospitals and the majority with training in Clinical Pharmacy. Lima et al[23] state that complementary training is essential for the development of clinical activities; however, it is necessary to reconcile theory and practice to strengthen the professional's knowledge and performance.

Still in the research by Lima et al[23], in which the authors also interviewed pharmacists about the medical record, it was found that the professional's experience is a limiting factor in this context. So the result obtained through univariate analysis related to the influence of the characteristics of the participants in the results obtained in this study points in favor of the proposed registration model, which may be useful both for more experienced pharmacists and for those with less experience in clinical activities. This demonstrates the importance of the model, since inexperience is considered as the main factor that impairs or prevents the recording of activities performed by the professionals in medical records[23,27].

Although the results show that there was no relationship between professional training and the good performance of pharmacists in the simulated record, some authors consider that insufficient clinical training, which is still a reality in several educational institutions, implies challenges such as the development of clinical reasoning and decision making in practice and is a detrimental factor to the realization of clinical pharmaceutical services, mainly due to the lack of standardization, which contributes to the challenges mentioned[24,27].

With the data presented in this study, added to the notes mentioned by the other authors, the need is evident for the clinical pharmacy service to be structured in a way that promotes compliance with all stages of patient care, especially the registration of the activities performed, since it is from that that the professional will consolidate in the team, demonstrating his contribution in the assistance provided.

Although it was limited to the pharmacotherapeutic follow-up service, this study may be relevant to encourage discussions about the documentation of any service offered by the clinical pharmacist in all environments.

Conclusion

The semi-structured model for the registration in medical records of the pharmacotherapeutic follow-up in a hospital setting evaluated in this study was considered applicable by most participants, who also performed well in its use, a fact evidenced by the high percentage of global compliance achieved.

Despite the reduced number of participants in the study, these results represent a small, but relevant, contribution to deepening the debate about the best way to carry out the documentation of pharmacotherapeutic monitoring in the medical records of patients in hospital services. In addition, the model proposed in this study can serve as a starting point for other pharmacists and services to develop their own models, adapted to the reality of each service.

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Contributors

LECF, EAA and NMCJ: participated in the research conception. LECF, EAA and MCF: data analysis and interpretation; responsibility for all the information of the paper, ensuring accuracy and integrity of any part of the work. LECF: elaboration of the simulated clinical cases; initial and final writing of the article. EAA: sending the research to the ethics and research committee; referral of the clinical cases, of the questionnaire and of the FICF to the participants. EAA, NMCJ, YAN: final review of the article; final approval of the version to be published.

Conflict of interest

The authors declare no conflicts of interest.

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APPENDIX A

Template and guidelines for registration in medical records of the 1st service

GENERAL FRAMEWORK
Record the most relevant objective and subjective data collected in the pharmaceutical anamnesis (reason for hospitalization, lifestyle, allergies, results of previous tests), including subjective experience with medications (expectations, concerns, level of understanding, preferences, beliefs and behavior related to their pharmacotherapy) for all clinical conditions/diseases and drug reconciliation data, when possible. Also record relevant information about each health condition, past/current medical and drug history and family history, as well as vital data and information about the general condition of the patient, collected daily.

PHARMACEUTICAL EVALUATION

Instruction: for the conditions under which the prescription drugs are being used, *perform the following registration.*

DISEASE/CLINICAL CONDITION NO. 1: *Write the name of the drugs in use for the clinical condition, route of administration and dosage.*
GOAL: *Write the therapeutic goal/objective.*
EFFECTIVENESS: *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*
SAFETY: *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of drugs in use.*
PROBLEM RELATED TO THE USE OF MEDICATION: *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".*
CLINICAL-PHARMACOTHERAPEUTIC SITUATION: *Register the clinical-pharmacotherapeutic situation in full.*

DISEASE/CLINICAL CONDITION NO. 2: *Write the name of the drugs in use for the clinical condition, route of administration and dosage.*
GOAL: *Write the therapeutic goal/objective.*
EFFECTIVENESS: *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*
SAFETY: *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of drugs in use.*
PROBLEM RELATED TO THE USE OF MEDICATION: *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".*
CLINICAL-PHARMACOTHERAPEUTIC SITUATION: *Register the clinical-pharmacotherapeutic situation in full.*

DISEASE/CLINICAL CONDITION NO. 3: *Write the name of the drugs in use for the clinical condition, route of administration and dosage.*
GOAL: *Write the therapeutic goal/objective.*
EFFECTIVENESS: *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*
SAFETY: *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of the drugs in use.*
PROBLEM RELATED TO THE USE OF MEDICATION: *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".*
CLINICAL-PHARMACOTHERAPEUTIC SITUATION: *Register the clinical-pharmacotherapeutic situation in full.*

DISEASE/CLINICAL CONDITION NO. 4: *Write the name of the drugs in use for the clinical condition, route of administration and dosage.*
GOAL: *Write the therapeutic goal/objective.*
EFFECTIVENESS: *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*
SAFETY: *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of the drugs in use.*
PROBLEM RELATED TO THE USE OF MEDICATION: *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".*
CLINICAL-PHARMACOTHERAPEUTIC SITUATION: *Register the clinical-pharmacotherapeutic situation in full.*

Instruction: For drugs prescribed "at medical discretion" and "if necessary" that are not being used *at the time of the evaluation, perform the following registration:*

Medication XX, medication XX, medication XX, medication XX only on demand.

CONDUCTS

Record the intervention proposals discussed with the health team or agreed directly with the patient (prioritize procedures to resolve the DRPs that are at higher risk or that bother the patient more). Determine the date for evaluating the result of the implemented interventions and/or for monitoring.

Template and guidelines for registration in medical record – starting from the 2nd service

GENERAL FRAMEWORK
Record only the most relevant new data collected during the new service (objective and subjective), including changes in the pharmacotherapy. It is not necessary to repeat the entire patient history already recorded at the first appointment.
PHARMACEUTICAL EVALUATION
Instruction: for the conditions to which **a DRP was identified in the previous appointment,** *perform the following registration.*   **DISEASE/CLINICAL CONDITION NO. 1:** *Write the name of the drugs in use for the clinical condition, route of administration and dosage.*   **GOAL:** *Write the therapeutic goal/objective.*   **EFFECTIVENESS:** *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*   **SAFETY:** *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of the drugs in use.*   **PROBLEM RELATED TO THE USE OF MEDICATION:** *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".* **Record whether the previous problem was resolved or not.**   **PREVIOUS DRP RESOLVED?:** *Record whether the previous problem was resolved or not.*   **CLINICAL-PHARMACOTHERAPEUTIC SITUATION:** *Register the clinical-pharmacotherapeutic situation in full.*   *Instruction: for the* **new health conditions and/or new DRPs,** *perform the following registration:*   **NEW DISEASE/CLINICAL CONDITION:** *Write the name of the drugs that will be started for the clinical condition, route of administration and dosage.*   **GOAL:** *Write the therapeutic goal/objective.*   **EFFECTIVENESS:** *Record the result of the effectiveness parameters (clinical and/or laboratory) that are being monitored to assess the effectiveness of the drugs in use.*   **SAFETY:** *Record the result of the safety parameters (clinical and/or laboratory) that are being monitored to assess the safety of the drugs in use.*   **PROBLEM RELATED TO THE USE OF MEDICATION:** *Record in full the cause of the DRP, accompanied by the medication. If no DRP is identified, enter "none".*   **CLINICAL-PHARMACOTHERAPEUTIC SITUATION:** *Register the clinical-pharmacotherapeutic situation in full.*   *Instruction: for the conditions under which* **there was no change** *in the pharmacotherapy since the last visit, make the following record:*   Other clinical conditions without changes in relation to pharmacotherapy at the moment.
CONDUCTS
CONDUCTS: *Record the intervention proposals discussed with the health team or agreed directly with the patient (prioritize procedures to resolve the DRPs that are at higher risk or that bother the patient more). Determine the date for evaluating the result of the implemented interventions and/or for monitoring.*

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