

## Educational Tutorials on the Hospital Pharmacist's Record in the Patient's Medical Records

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### ABSTRACT

To document the care on the patient is a necessary skill to the pharmacist. The goal of the study is to prepare educational tutorials related to the registration of Clinical Pharmacy activities in the medical record. It is a technological production carried out in two stages: quantitative cross-sectional study and preparation of educational tutorial videos. Data collection occurred through an online survey of pharmacists active in Brazilian hospitals and Pharmacy professors. The preparation of the educational tutorial videos followed the ADDIE model. 47 professors participated in the research, 100% consider the theme important; and 80% believe that the undergraduate program does not prepare the student for the recording in the medical records. Among the 248 participating pharmacists: only 9% received guidance on the subject during undergraduate course; and less than 40% felt able to record clinical activities in medical records. Three tutorial videos on the recording of the pharmacist's in the medical records were made. The research indicated a need to update the knowledge of Brazilian pharmacists related to the theme record in medical records in services and teaching. The three tutorial videos on the registration of the pharmacist in the medical records were elaborated to disseminate knowledge to pharmacists.

**Keywords:** Pharmacist; patient records; hospital pharmacy; clinical pharmacy; educational videos.

### TUTORIAIS EDUCATIVOS SOBRE REGISTRO DO FARMACÊUTICO HOSPITALAR NO PRONTUÁRIO DO PACIENTE

### RESUMO

Documentar o cuidado com o paciente é uma habilidade necessária ao farmacêutico. O objetivo deste estudo foi elaborar tutoriais educativos relacionados ao registro das atividades de Farmácia Clínica no prontuário do paciente. Trata-se de uma produção tecnológica realizada em duas etapas: estudo transversal quantitativo e elaboração de vídeos tutoriais educativos. A coleta de dados ocorreu por inquérito *on-line* de farmacêuticos atuantes em hospitais e professores dos cursos de Farmácia. A elaboração dos vídeos tutoriais educativos seguiu o modelo Addie. Um total de 47 professores participou da pesquisa, 100% consideraram o tema importante; e, 80% acreditam que a Graduação não prepara o discente para o registro das atividades clínicas no prontuário. Entre os 248 farmacêuticos participantes: 9% receberam orientações sobre o tema durante a Graduação e menos de 40% sentem-se aptos para realizar o registro das atividades clínicas em prontuário. Três vídeos tutoriais sobre o registro das atividades clínicas do farmacêutico no prontuário foram elaborados. A pesquisa sinalizou uma necessidade de atualização de conhecimento dos farmacêuticos brasileiros relacionada ao tema registro em prontuário nos serviços e no ensino. Os três vídeos tutoriais sobre o registro do farmacêutico no prontuário foram elaborados para apoiar o ensino da temática e disseminar o conhecimento para os farmacêuticos.

**Palavras-chave:** Farmacêutico; prontuário do paciente; farmácia hospitalar; farmácia clínica; vídeos educativos.

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## INTRODUCTION

The professional activities of the pharmacist linked to safety and effectiveness in the use of medications, which may influence the outcome of the patient, should be recorded in the patient's medical records<sup>1</sup>. The activity of pharmaceutical registration in the patient's medical records has been regulated since 2008 in Brazil<sup>2-4</sup>.

The act of documenting the care activities performed on the patient is a necessary skill to the clinical pharmacist<sup>5-6</sup>. The registry assists in the process, transition and continuity of care, besides being an excellent communication tool between the multidisciplinary team and valuable data source for studies. In addition, documentation is essential for assessing the overall impact of a service<sup>3,7</sup>. The clinical practice of recording in the patient's medical records, besides being a duty of the profession, can be seen as an effective strategy in the dissemination and maintenance of hospital pharmacists as active and valuable members of the health team<sup>2-4,8</sup>.

The lack of the pharmaceutical academic education to record clinical activities in medical records is a challenge to be overcome<sup>9-10</sup>. In order to consolidate the practice of pharmaceutical registration in medical records, a qualified approach in professional training at undergraduate and graduate education level and continuing education activities are necessary, providing opportunities for the pharmacists' training<sup>10</sup>.

Initially, this study sought to investigate the following research question: what is the opinion of clinical pharmacists and Pharmacy professors about the evolution of the pharmacist in the patient's medical records? After knowing their opinion, the objective was to develop educational tutorial videos for the registration of the pharmacist's clinical activities.

## METHODS

The study of technological production was carried out in two stages. In the first stage, a cross-sectional study was conducted, and in the second stage, three tutorial videos were prepared on the record of the pharmacist's clinical activities in the patient's medical records directed to professionals, professors and undergraduate students in Pharmacy, guided by the Addie model<sup>11-13</sup>.

To know the opinion of hospital pharmacists and pharmacy professors on the subject two online surveys were prepared and disseminated to teachers and pharmacists through the Brazilian Society of Hospital Pharmacy and Health Services (SBRAFH), WhatsApp® messages, SIG Pharmaceutical Care webinar contacts and social networks as Facebook® and Instagram®. The questionnaires were available to be filled from October 1, 2019 to December 31, 2019.

Included in the study were: pharmacists working in hospitals and undergraduate professors from public and/or private higher education institutions, who teach subjects with an approach to the theme "pharmaceutical record in medical records", both from Brazilian institutions and who responded to the online survey within the established period.



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The surveys used as a research tool had open and closed questions, structured in electronic format in the tool "Google Forms". The variables collected in the questionnaire were: gender, age, time of academic education in years, graduate education, knowledge of national legislation, importance of the theme and ability of pharmacists to perform the activity of the record in medical records.

The collected data were stored in the Excel program© and later analyzed in the Software Statistical Package for Social Science (SPSS) version 25.0 for Windows. The continuous quantitative variables normally distributed were presented by mean and standard deviation or median and percentiles 25 and 75, categorical variables by absolute and relative frequency. The Shapiro-Wilk test was used to assess data normality. The crosses between the variables were analyzed using the Mann-Whitney test.

This research was initiated after the approval of the Ethics Committee on Research with Human Beings (CEP) of the University under CAAE no. 15206819.0.0000.5345. All participants of the research signed the Free and Informed Consent Form, ensuring the anonymity of the participants.

The Addie model is composed of five phases: analysis; design; development; implementation; and evaluation; divided into two stages. The first design stage includes analysis, design and development. The second stage of execution, includes implementation and evaluation. The educational tutorial videos were prepared by the ADDIE model of instructional design<sup>11-13</sup>.

In the conception stage, the scenario analysis phase to support the choice of educational product was based on an integrative literature review, followed by field research. The design of the educational product considered its scope, ease of access and sharing potential.

Considering the aspects previously mentioned the elaboration of three videos entitled "Tutorials on Pharmaceutical Registry in the Patient's Medical Record" was defined as an educational product. The development of the product occurred in three moments, namely: elaboration of the script in Portuguese and translation into English; recording of audios; and production videos using Vyond tool ([www.vyond.com](http://www.vyond.com)).<sup>14</sup>

In the execution stage, the implementation of the videos occurred from their publication on the Youtube platform, being free access (<https://youtube.com/playlist?list=PLaEtveiQNyvl2oYqX69b5f0DJLVwGzql2>). To evaluate the educational product, we used the 'Ten golden rules' for designing software in medical education, namely: 1) Content should be suitable for the educational purpose, of good standard and relevant to clinical practice; 2) Content should be evidence-based, not opinion-based; 3) Use of hypermedia and hypertext to promote knowledge; 4) Ensure that the presentation is interesting, enjoyable and challenging; 5) Use appropriate multimedia; 6) Use of a problem-based setting; 7) Content and tasks must stimulate analytic and problem-solving skills; 8) The product must be user-friendly, with easy navigation; 9) Provide suitable impetus for use; 10) Keep cost low and maintain strict production schedules.<sup>15-16</sup>



## RESULTS

About 295 pharmacists answered the questionnaire, of which 248 hospital pharmacists and 47 professors from undergraduate courses in Pharmacy. The data regarding the characterization of the research participants are presented in Table 1.

Table 1 – Profile of hospital pharmacists and pharmacy professors who responded to the online survey. 2019. Brazil.

Variable	Mean $\pm$ SD or % (n)	
	Pharmacist (n=248)	Pharmacy Professor (n=47)
<b>Age</b>	34.40 $\pm$ 7.64 years	42.77 $\pm$ 10.52 years
<b>Gender</b>		
Female	82.26%	87.24%
Male	17.74%	12.76%
<b>Average Time of Academic Education</b>	9.75 $\pm$ 7.59 years	19.29 $\pm$ 10.53 years
<b>Academic Institution</b>		
Public	49.60%	*
Private	50.40%	*
<b>Higher Education Institution</b>		
Public	*	44.68%
Private	*	55.32%
<b>Graduate education</b>		
Do not have a graduate degree	9.68%	0.0%
Specialization (in progress or finalized)	59.68%	12.77%
Master's degree (in progress or finalized)	20.16%	21.28%
Doctorate degree (in progress or finalized)	10.48%	65.95%
<b>Average time of work in Hospital Pharmacy</b>	7.22 $\pm$ 6.92 years	6.34 $\pm$ 7.27 years**
<b>Average teaching time in the pharmacy area</b>	*	11.57 $\pm$ 8.75 years
<b>Experience in Clinical Pharmacy activities</b>		
Yes	80.65%	*
No	19.35%	*
<b>Average time of work in clinical pharmacy***</b>	4.45 $\pm$ 4.45 years	*

\* Question not directed to participants.

\*\* Pharmacy professors who work/worked in Hospital Pharmacy (n = 34).

\*\*\* Hospital pharmacists who have experience in clinical pharmacy activities (n = 200).

Source: Authors, 2019.

Table 2 presents the opinion of hospital pharmacists on the record of clinical activities in the patient's medical records.



Table 2 – Opinion of hospital pharmacists on the record of clinical activities in medical records. 2019. Brazil (n=248).

Variable (n)	Frequency (%)
<b>Should the pharmacist record/evolve all his/her clinical activities in medical records?</b>	
Yes	89.92%
No	10.08%
<b>During your professional training, at what time did you receive instruction to record the patient's medical records?</b>	
Yes, in undergraduate course.	9.27%
Yes, in graduate.	34.68%
Yes, at events promoted by pharmaceutical entities.	14.92%
Yes, at events promoted by the institution where you work.	17.74%
You have not received formal instructions for registering.	41.94%
<b>The pharmacist feels able to perform evolution in medical records</b>	
Yes, totally	39.11%
Yes, partially	48.79%
No, partially	4.84%
No, totally	7.36%

Source: Authors, 2019.



It was evidenced that 42.6% of the teachers reported that during the classes the students have access to the patient's medical records. Of the teachers who reported enabling access to medical records to pharmacy students, 75% reported having access to the multidisciplinary medical records (n = 15), 20% had access to pharmaceutical records (n = 4) and 5% had access to multidisciplinary and pharmaceutical medical records. Among the teachers who reported providing students with access to the patient's medical records, 95% (n = 19) reported that the students made some type of record (real or fictitious) to put into practice the theoretical content.

Table 3 – Analysis of the time of academic education, time of work in hospital pharmacy, time of work as a professor and workload dedicated to the theme record and the perception of professors about the preparation of the undergraduate student to record clinical activities in medical records. 2019. Brazil.

Undergraduate student prepared for registration	Years of Academic Education	Years of Hospital Pharmacy	Years of Teaching	Workload about Registration
	Median (25%;75%)	Median (25%;75%)	Median (25%;75%)	Median (25%;75%)
No	17 (10 ; 30)	7 (4 ; 12)	10 (4 ; 17.25)	2 (2 ; 8)
Yes	17 (13.5 ; 21)	6 (4 ; 8)	10 (3.50 ; 16)	8 (4 ; 40)
p-value*	0.839	0.393	0.56	0.02

(\*) Mann-Whitney U Test.

Source: Authors, 2019.

More than 80% of the professors indicated that the undergraduate program does not prepare the pharmacist to record clinical activities in the patient's medical records. However, it is observed that the teachers who consider phar-

macy undergraduate students able to register/evolve in medical records are those who reported the highest-class workload dedicated to the theme ( $p < 0.05$ ) (Table 3). When asked about the relevance of the theme, all professors considered it important to approach the theme during undergraduate education in order to effectively prepare future pharmacists for this activity.

Based on the results presented in step 1, the elaboration of a series of three animated videos called "Pharmaceutical Record in the Patient's Medical Record" was defined. The videos elaborated have an average duration of five minutes and include three subthemes and were entitled: 1) Continuity of Care; 2) Legal Aspects; and 3) Methodology for Registration. The objective of the video series is to assist pharmacists, professors and undergraduate students in Pharmacy for the knowledge and development of initial documentation skills of clinical pharmacy activities in the patient's medical records.

As a strategy for the dissemination of the video series the script of the videos has been translated to English and a subtitled version of the three videos will also be available on a virtual platform. Figure 1 features images of scenes with captions from tutorial videos 1, 2, and 3.

Figure 1 – Representative images of scenes with English caption from the tutorial on Pharmaceutical Record in the Patient's Medical Record



Source: Authors, 2020.

## DISCUSSION

All clinical activity of the pharmacist should be recorded in the patient's medical records, regardless of whether or not this results in an intervention<sup>3-4</sup>. In this survey about 90% of the participants who answered the questionnaire also agreed with the statement.

Pharmacists recognize when, how and what to document, however, they did not record in medical records, because they considered it necessary additional training on the subject.<sup>17</sup> For the pharmacists to consolidate the activity of

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medical record registration, it is necessary that the practice be adopted, disseminated and encouraged by health institutions and that the content be addressed in a higher education group in a broader way prepared for future professionals.<sup>18-19</sup> These findings corroborate the data presented in this study, demonstrating that pharmacists recognize the need for documentation of their activities, however, they state that greater knowledge is needed to develop the activity.

In this study, it was observed that more than 60% of hospital pharmacists do not feel able to record their clinical activities in the patient's medical records. Another relevant data was the statement that students of Brazilian pharmacy courses do not complete the undergraduate education prepared to perform the registration of their clinical activities in medical records manifested by more than 80% of the participating teachers. These data show that there is a great potential for the development of the theme in pharmacy education, as well as in the continued training of Brazilian hospital pharmacists.

Due to the findings, it was observed the opportunity to develop an educational product of easy access and dissemination for introduction and motivation of the theme between the pharmaceutical professional class and teaching in Pharmacy. For this reason, we chose to make a series of educational tutorial videos about the pharmacist's record in medical records in a simple and didactic way.

The use of videos as a learning object has been successfully employed in several areas, including pharmacy teaching.<sup>20-25</sup> With the popularization of internet access and the existence of several free virtual video sharing platforms, the use of this resource as a support for the teaching-learning process tends to reach a larger audience, allowing more professionals and students to connect to the learning object and appropriate the information, content or theme explored by it.<sup>20,26-28</sup> To expand access to the series of tutorial videos, two versions were produced, one aimed at Brazilian pharmacists and another with English subtitles for international dissemination of the educational product. In addition, the permanent suitability of the product will follow from the criticisms and suggestions described in the comments linked to the videos on the sharing platform, as well as from new publications on the topic.

There is potential for improvement related to the last phase of the Addie model, the evaluation, which is not the object of this study, however, it is a perspective of continuity. The adjustment needs identified by the tutorial viewers are components related to the continuity of this study.

## CONCLUSION

Hospital pharmacists and pharmaceutical teachers recognize the importance and need to document patient care activities in medical records. However, pharmacists and professors reported that the undergraduate program does not prepare the professional for this activity. Moreover, even working in the hospital area, many pharmacists do not feel able to perform the record in medical records.



Three educational tutorial videos were conceived as a teaching-learning tool, aiming to instigate and motivate pharmacists and pharmacy students to seek greater knowledge on the subject and effectively perform the evolution of patient care activities in medical records. These videos have the potential for dissemination and support in the training activity of students and pharmaceutical professionals.

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