

**THE PATIENT RECORD IN PHARMACY: CURRENT SITUATION AND PROSPECTS  
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**ABSTRACT**

**Aim:** This study initially consists of drawing up an inventory on the use of the patient record in Morocco, by carrying out a survey in the capital and the greater Rabat area. Secondly, we launched a pilot phase, which consists of creating and implementing a patient record model. This model is presented to a sample of patients in order to estimate the degree of feasibility of its implementation. **Material and method:** A four-month prospective study was conducted in 50 community pharmacies. A questionnaire was used to draw up the present state of the use of the patient record in pharmacies in Morocco. Data collected was processed using SPHINX PLUS version 5.0 software. A prototype patient record was developed and tested on a sample of 10 patients to detect drug-drug interactions. **Results:** The investigation revealed that of the 50 pharmacies: 44 pharmacies had records. Among these, 40 claimed to have a credit file and only 4 pharmacies had both the credit file and the patient record. 06 pharmacies stored their data in paper format, 22 in electronic format and 16 used both formats. 76% of pharmacists surveyed believed that the patient record should serve as a credit file, 74% said that it would allow monitoring of medical prescriptions, 68% were for the detection of drug-drug interactions. With the collaboration of pharmacists, we designed a prototype patient record applied to a sample of 10 patients, we found six drug-drug interactions. **Conclusion:** Our study revealed the absence of the patient record in pharmacies. 94% of pharmacists surveyed recognized the importance of the patient record in the early detection of drug-drug interactions. They welcomed the idea of establishing the patient record in Morocco but by associating the patient record with a credit-file component.

**KEYWORDS:** Patient record - credit-file - pharmacy – drug-drug interactions.**BACKGROUND**

The patient record (PR) is a file belonging to each beneficiary of health insurance who wishes it. It contains all the drugs dispensed in the past four months. drugs prescribed by the doctor, advised by the pharmacist or self-medicated, in the past three years. This file is fed by the pharmacist and hosted by an approved PR host.<sup>[1]</sup> The PR help to secure the dispensing and detect the risk of dangerous drug interactions, between products, or between a drug and the patient's pathophysiological state, as well as treatment redundancies. It further directs the pharmaceutical act towards the patient. The patient record also makes it possible to deepen the pharmacist-patient relationship by educating the patient on his pathology. It contributes to informing patients in the event of a health alert such as the withdrawal of medicines from the market and stock shortages. It contributes to the Personal Medical File by developing its medication component.<sup>[2]</sup> Currently with the progress

of pharmacy technology, it is omnipresent, and good management of the pharmacy requires a suitable it tool. Whether it is sales, purchasing, stock and patient management software.<sup>[3]</sup> Before opening the PR, the interested party must receive full information from the pharmacist on the procedures for creating, using, modifying or closing the PR. The patient must provide health and personal identity documents. After entering the information, the pharmacist gives the patient a certificate of creation. The patient's personal information collected on this certificate is processed by the pharmacist. The PR includes general information about the patient, lifestyle, medical and surgical history, treatment history. At the time of dispensing, the pharmacist notes the identifier, quantity, date of delivery of the drugs with or without a prescription.<sup>[4]</sup> To consult the PR, the pharmacist must be authenticated by his professional card number. He then enters the patient's vital card number. The file is automatically displayed

containing the patient's treatment history for the past four months.<sup>[5]</sup> The patient record requires two essential workers. The first is the PR host which is responsible for keeping and managing the PR dispensing histories (example SANTEOS in France).<sup>[6]</sup> The second is the editor of the PR (examples Alliadis, Caduciel), which collaborates with the approved host and pharmacists. It ensures the implementation and development of the PR. It also makes it possible to make the management software in LGO pharmacies and the PR compatible.<sup>[7]</sup> In Morocco, as in other African countries, the situation still seems precarious regarding the PR. This article is part of this determination. It will be the start of a long process of setting up the PR within the pharmacies of Morocco. The objective of this study initially consists of drawing up an inventory on the use of the patient record in Morocco, by carrying out a survey in the city of Rabat and its surroundings. Secondly, we launched a pilot phase, which consists of creating and implementing a patient record model. This model is presented to a sample of patients in order to estimate the degree of feasibility of its implementation.

#### MATERIALS AND METHODS

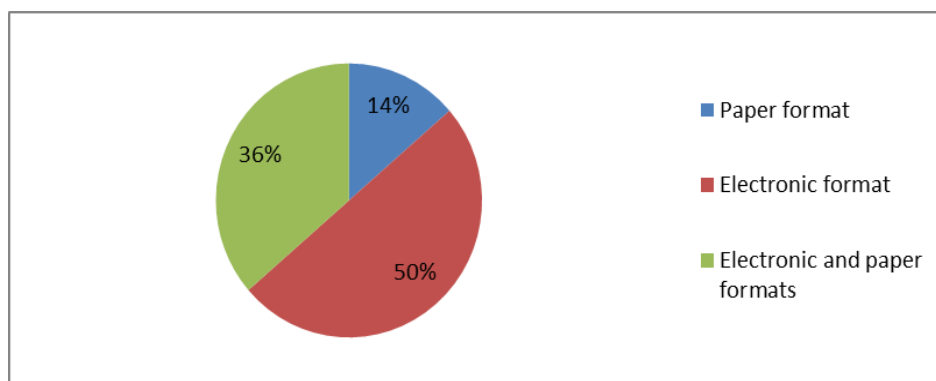
It is a prospective, analytical study, spread over a period of four months (December to April). This study is carried out at fifty pharmacies. These pharmacies are distributed in several districts of Rabat, Salé and Témara. A

questionnaire was used to draw up the present state of the use of the patient file in pharmacies in Morocco. Data collected was processed using SPHINX PLUS version 5.0 software. A prototype patient record was developed and tested on a sample of 10 patients to detect drug-drug interactions.

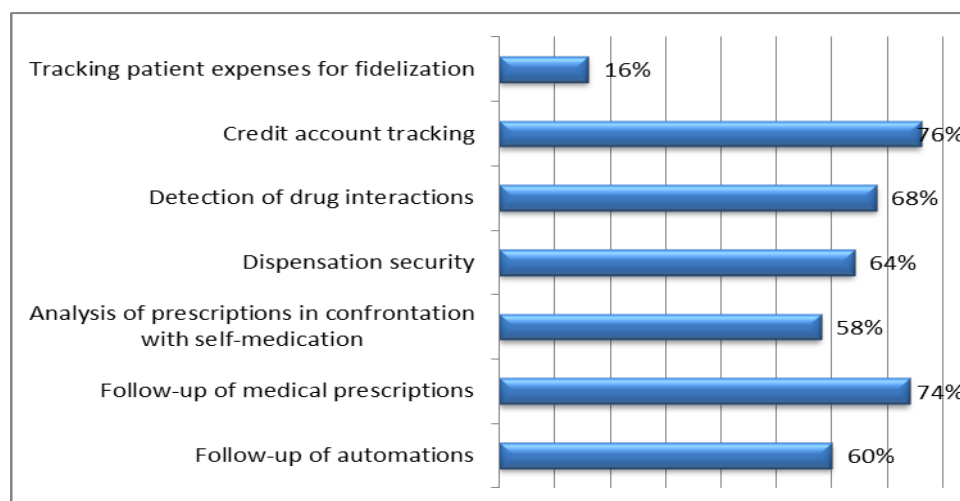
#### RÉSULTATS

In the first part of our study, out of the 50 pharmacies, 44 had a record. Among these, 40 claimed to have a credit file and only 4 pharmacies had both the credit file and the patient record. 06 pharmacies stored their data in paper format, 22 in electronic format and 16 used both formats (**Figure 1**). 76% of pharmacists surveyed believed that the patient file should serve as a credit file, 74% said that it would make it possible to follow medical prescriptions, 68% were for the detection of drug interactions (**Figure 2**).

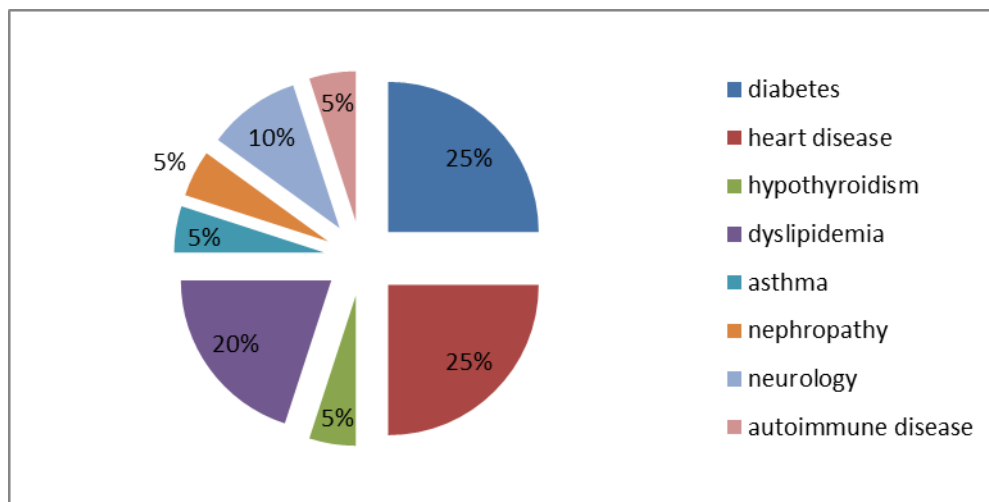
In the second part of our study, we tested a prototype patient file (see annex), on a sample of 10 patients, suffering from chronic pathology (**Figure 3**). These patients were 50% female and 50% male. Their age was between 60 and 75 years. The analysis of prescriptions via the patient file allowed us to identify 16 drug-drug interactions: 01 association advised against, 09 Precautions for use and 06 associations to take into account.



**Figure 1: Format of the patient record.**



**Figure 2: Interest in the patient record.**



**Figure 3: Distribution of patients according to their pathological history.**

### ANALYSIS AND DISCUSSION

The patient record is of paramount importance. Several studies conducted in France have shown that it remains an essential tool in the daily life of the pharmacist. However, this tool seems little known in some countries. The PR makes it possible to broaden the missions of the pharmacist, such as therapeutic education for patients<sup>[8]</sup> and therapeutic support for the patient. The PR helps to retain the patient. Indeed, seeing a pharmacist ensuring good follow-up with diet and hygiene advice, the patient will feel well taken care of and will be attached to this pharmacy. Initially, for the majority of pharmacists, there was confusion between the PR and the credit file. As previously formulated, there were pharmacists who had checked the "have both records" box. We contacted these pharmacies again, and finally it seemed to us that they were confusing their client files with patient files. At this time the nuance between the two files was clarified. We noticed from these results that no dispensary in Morocco had a real patient record. For more than 90%, it was a credit report. According to the pharmacists contacted, the patient record is important in monitoring medical prescriptions, self-medication and for the detection of drug interactions. It makes part of the pharmacist's work easier and, as a result, saves time in analyzing the prescription thanks to his computer system. After establishing a patient record model, it was tested during a pilot phase. The study sample (10 patients) was not significant for detecting variability in drug interactions. These patients were followed for endocrine (diabetes, hypothyroidism), cardiovascular pathologies. Similarly, a patient on hemodialysis, an asthmatic patient and two patients on psychotropic drugs were included in our study. We did not have information on allergies and biological monitoring during this phase due to the short period of the study. But we did monitor blood pressure and blood sugar. During this follow-up, several pieces of advice were given to patients on diet and hygiene rules.

By comparison with a study carried out in France<sup>[9]</sup> which concerned 36 patients with different pathologies (Cardiovascular, endocrine, prostatic adenoma...) and

different physiological states (pregnancy, breastfeeding...). There were patients with known allergies (eg sulfites ...). There have been several interventions following contraindications.

Through our study, we have found that this tool allows the early detection of any risk of adverse effects, and to prevent their complications, to integrate the pharmacist in the patient care process by promoting cooperation between professional health. Thanks to its preventive action, the PR can contribute to the health insurance funds. By preventing the risk of drug-drug interactions, we also prevent possible complications or prolongation of the hospital stay. It contributes to the economy of the pharmacy because a patient who is well followed will remain loyal to his pharmacy.

A study was conducted in France to measure the usefulness of PR in 2011.<sup>[10]</sup> The purpose of this study is to demonstrate the importance of the information contained in the PR. The study showed the pharmacist's approach following the detection of a risk for the patient (standard and the patient on anti-vitamin K) thanks to the additional information contained in the PR.

A questionnaire has been made available to a number of pharmacists in which they must report the presence of drug interaction or redundancy in treatment. The results obtained over a period of 180 days, 746 questionnaires were returned by 221 pharmacies, distributed as follows: over 180 days more than 500 drug interaction and 125 redundancies detected by the PR in standard prescriptions. More than 100 drug interaction and 4 redundancies detected in anti-vitamin K orders. The PR has a whole role to play in the management of medical prescriptions by ensuring the proper therapeutic monitoring of the patient.

### CONCLUSION

The study that we conducted in Morocco revealed the absence of the PR in pharmacies, at least a therapeutic follow-up file of the patient, because the credit file was

very present. The majority of pharmacists interviewed recognized the importance of PR in the early detection of drug interactions. These pharmacists were supportive of the idea of establishing PR in Morocco. They wanted to associate the PR with a credit file component. Other subjects, such as third-party payment and fee-for-service, were raised by the officials.

According to this study, we recommend pharmacists to integrate themselves into the new missions available to them, in particular, by participating in the therapeutic education of the patient. While investing in the establishment of the PR. To encourage the motivation of pharmacists, we could think of fee-for-service as in some countries.

### Competing and Conflicting Interests

No conflicts of interest.

### Declarations

- Consent for publication

Data were collected anonymously.

- Funding

The study did not receive external.

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### ANNEX

#### PATIENT FOLLOW-UP SHEET

##### Patient:

Last name and first name:

Sex:  M  F Date of Birth:

 /  / 

Family situation:  S

M

Children:

N° CIN:

Adresse:

Social security:

Tel/mail:

Pathological/Psychiatric History:

##### Doctor

Doctors:

Specialties:

Phone:

Date	Prescribed drugs				Self-medication		Drug interactions			Biological anomalies during monitoring		
	The brand name of a drug	Dosage	Duration of the treatment	Price of the treatment	The brand name of a drug	Price of the treatment	Pharmacological	Physiological	Drug-drug and food interactions	Haemato	Infectio.	Biochem.
<b>TIP SHEET</b>												
Advice on drug prescription			Advice on self-medication			Advice on pathology			Patient			other
									Life hygiene	Nutrition	Sport	