

What Constraints Does A Dispensing Pharmacist Face When Prescribing Medication In The Town Of Sidi-Bel-Abbés, Algeria

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Summary:

Objective: The dispensing pharmacist encounters several difficulties when issuing and dispensing medical prescriptions. The aim of our study was to identify the constraints encountered by dispensing pharmacists in the town of Sidi-Bel-Abbés (Algeria).

Materials and method: This was a descriptive study conducted from December 2022 to March 2023 on a randomly selected sample of 96 dispensing pharmacists in the town of Sidi-Bel-Abbés (Algeria). Data were collected by means of a pre-established questionnaire, using a Likert-type questionnaire.

Results: The results obtained showed that the prescription complied with the regulations in the majority of cases, with 83.33% of prescriptions giving the patient's name and 64.59% giving the age. 52.09% of pediatric prescriptions gave the child's weight, and 64.59% of prescriptions had the surname and first name of the prescriber. 39.60% of prescriptions showed the address. The stamp and signature were specified in 70.83% of cases and the date of prescription in 68.75% of cases. 55.21% of dispensers occasionally encountered problems with illegible prescriptions. The variables relating to technical verification were specified in the majority of cases (54.16% for the galenic form, 59.38% for the quantity and 62.50% for the dosage), but the duration of treatment and the date of administration were occasionally specified in the majority of cases (25% and 15.63% respectively). Dispensing was done in the majority of cases by the sales assistant (almost always 54.16%), (50%) by the student trainee, (43.75%) by the pharmacist. The prescribed drug was almost always unavailable (17.70%) and generic substitution was made in most cases (64.58%). 52.09% of pharmacists had conflicts with patients relating to generic dispensing. In the case of non-compliant prescriptions, 72.92% of dispensers rarely or never complete the information without notifying the doctor, and 31.25% often ask the patient to contact the doctor.

Conclusion: Pharmacists face a number of constraints when prescribing, which have a negative impact on the quality of their dispensing. Prescriptions must comply with regulations laid down by the health authorities. This is why the doctor-pharmacist relationship is also essential for reducing the number of errors and making the dispensing process safer.

Key words: Medical prescription, dispensing pharmacist, medical prescription, prescription dispensing, medication errors.

I. Introduction

A medicinal product is "any substance or composition presented as having preventive or curative properties in respect of human or animal diseases". The drug circuit comprises four successive phases: prescribing, dispensing, administration and, finally, evaluation and monitoring of the treatment.

Pharmacists are specialists in medicines. The pharmaceutical monopoly designates this health profession as the legal dispenser of all medicines, so the pharmacist's role is to validate the doctor's prescription, store the medicines in good conditions and dispense them to patients. When dispensing a medicine prescribed by a doctor, the pharmacist must check that the prescription is acceptable and analyze its content (dose, route of administration, duration of treatment). They must also check for contraindications and possible interactions, because medicines used inappropriately can have very unfortunate consequences for the consumer.

It would appear that the prescription is a communication link between the prescriber, the pharmacist and the patient, hence the regulatory and scientific requirements in this area. In addition to the name of the drug or drugs, a prescription that complies with these requirements must include the prescriber's name, address, signature and as much information as possible about the patient, and must be legible by both the pharmacist and the patient.

The risks associated with medicines are not limited to their adverse effects, but there are also avoidable risks resulting from their prescription, dispensing or administration, known as "medication errors" (1,2)

Medication errors are very common, at all stages of the medication circuit, and sometimes lead to serious adverse events, such as doctor-related errors and pharmacist-related errors.

Pharmacists face a number of constraints when dispensing medicines, including: prescriptions that do not comply with regulations, lack of information, conflicts with patients, etc.

In Mali, a study carried out by COULIBALY in 2011 (3) on the analysis of prescriptions and dispensing in pharmacies of the Bamako district revealed that: only 7.6% and 5.4% of prescriptions mentioned the patient's age and weight respectively; 35.8% of prescriptions had unidentified prescribers and 28.4% of prescriptions were dispensed without an explanation of the dosage.

In another study carried out by KONATE in 2006 on the presence on prescriptions of the information required for proper dispensing in Bamako, 37.3%, 30.7% and 17.5% of prescriptions did not include the dosage, the prescriber's address and the galenic form, respectively (4,5).

The main objective of this work is to study drug prescribing in pharmacies in the town of Sidi-Bel-Abbés (Algeria). And the following variables:

- Analyze drug prescriptions.
- Check that the medical prescription is correct.
- Identify the pharmacist's reaction to non-compliant prescriptions.
- Suggest measures for improvement.

II. Materials and methods

The study took place in 96 pharmacies in Sidi-Bel-Abbés (Algeria).

1. Type of study

This is a descriptive study based on the analysis of questionnaires containing information about the prescriber of the prescription (general practitioner, specialist doctor and resident doctor), the medical prescription and the dispenser of the medicine (dispensing pharmacist, sales assistant,

student trainee).

The study ran from December 2022 to March 2023.

Study population

The study focused on prescriptions bearing a drug prescription containing three of the following indications: name, address and signature of the prescriber, patient's surname and first name, and date of prescription.

Inclusion criteria: all pharmacies located in the city of Sidi-Bel-Abbés (Algeria) were randomly selected.

Non-inclusion criteria: non-consenting pharmacies were not included in our study.

2. Sampling

Sample size :

The number of subjects required for the survey was calculated using the site's sample size calculator: www.openepi.com.

The data entered are :

- Population size: 123 dispensaries.
- Confidence limit: 05%.

We selected 96 pharmacies in the town of Sidi-Bel-Abbés (Algeria). The pharmacies were randomly selected.

3. Collection technique

Our study was based on questionnaires from pharmacies in the town of Sidi-Bel-Abbés (Algeria). The questionnaire was designed to meet the objectives of our research, based on data from the scientific literature and our questions about the constraints encountered by pharmacies when prescribing medicines, which include:

A section dedicated to the person dispensing the medicinal product (dispensing pharmacist, sales assistant, student trainee):

- Age.
- Gender
- Seniority.

A section dedicated to the quality of the prescriber:

- General practitioner.
- Resident doctor.
- Specialist.

A section dedicated to medical prescriptions:

- Type of prescription (handwritten or scanned)

- Conformity of the prescription (identity of the patient, age of the patient, weight if a child, identity of the prescriber, stamp and signature, date of prescription, illegible prescription).
- Technical aspects of the order.
- Dispenser of the prescription.
- Availability of the drug.
- Generic substitution.
- Conflict with a patient during generic substitution.

Respondents are asked to rate on a 4-point Likert-type scale:

- Rarely / never.
- Occasionally.
- Often.
- Almost always / always.

4. Data entry and analysis

Data was entered as the questionnaires were drawn up. The data was analyzed using IBM SPSS 23 (Statistical Package for the Social Sciences).

Quantitative variables are described in terms of their percentage or headcount distribution.

Qualitative variables are described by calculating the mean, median and standard deviation.

5. Ethical considerations.

The questionnaire is anonymous, completed after obtaining the consent of the dispensing pharmacist and informing him or her that there will be no conflict of interest (personal, professional or financial).

III. Result

1. Descriptive epidemiology of the study population

The study involved 96 dispensing pharmacists in the town of Sidi-Bel-Abbés (Algeria).

Socio-demographic characteristics of the study population: In our sample of 96 dispensing pharmacists, there were 30 men and 66 women. The sex ratio was 0.45 men to one woman. The age distribution enabled us to make the following observations:

The minimum age was 25. The maximum age was 65, with a mean of 39.47 years and a standard deviation of 2.375 years. The median was 38.142 years, located in the [35-45[range, which represents 36.45%, of which 40% was male. The [25-35] age group accounted for 38.55%, with 24.3% men. The [45-55] age group represents 16.66% with 31.3% men. The age group [55-65] represents 08.34% with 25% men.

The distribution of dispensing pharmacists according to seniority revealed that the average seniority of the study population was 8.25 years, or almost 8 years. The minimum seniority of the population was 1 year with a maximum seniority of 25 years.

2. Concerning the prescription

In 60.41% of our sample, medicines are almost always dispensed on medical prescription. The distribution of our sample according to the compliance of the prescription with the regulations showed that the prescription complied with the regulations in the majority of cases. The breakdown of cases by prescription bearing the patient's name showed that the name was mentioned in the majority of cases (almost always in 83.33% of cases). The distribution of cases according to prescriptions bearing the patient's age showed that age was almost always mentioned in 64.59% of cases. The distribution of cases according to the weight indicated on the prescription, when the patient was a child, showed that the weight was often indicated on the prescription (52.09%). The breakdown of cases according to the prescriber's first and last name on the prescription showed that the prescriber's identity was found in the majority of cases (almost always in 64.59% of cases). The distribution of cases according to the prescriber's address on the prescription revealed that the prescriber's address was found in the majority of cases (almost always in 39.60%). The prescriber's stamp and signature and the date of the prescription were found in the majority of cases (70.83% and 68.75% respectively). Illegible prescriptions occasionally represented a rate of 55.21%.

Table 01: Sample breakdown according to compliance of the order with the regulations.

Variables	Almost			Variables
patient's name	83,33%	16,67 %	00%	00%
patient's age	64,59%	31,25 %	04,16%	00%
Weight (for children)	52,09%	31,25 %	12,50%	04,16%
Prescriber's first name, Surname	64,59%	56,62 %	06,52%	01,04%
prescriber's address	39,60%	32,29 %	17,71%	10,41%
prescriber's stamp/signature	70,83%	27,09 %	01,04%	01,04%
Date of prescription	68,75%	31,25 %	00%	00%

Illegible prescription	14,58%	23,96 %	55,21%	00%
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The distribution of cases according to the prescriber's status revealed that general practitioners accounted for the majority (almost always 52.08%), followed by residents and specialists.

2.1. Concerning the technical aspect of the order

A breakdown of our sample according to the technical aspect of the prescription revealed that the galenic form (54.16%), quantity (59.38%) and dosage (62.50%) are almost always mentioned in the majority of cases. The duration of treatment and route of administration were occasionally mentioned.

Table 02: Sample breakdown according to the technical aspect of the order

Variables	Almost always	Often	Occasionally	Rarely/never
Galenic form	54,16%	35,42%	09,38%	01,04%
The quantity	59,38%	36,46%	04,16%	00%
Dosage	62,50%	31,25%	05,21%	01,04%
Duration of treatment	25%	34,38%	36,46%	04,16%
Route of administration	15,63%	27,08%	20,83%	36,46%

The distribution of cases in our sample according to the status of the dispenser of the prescription showed that the sales assistant represented the majority of cases (almost always in 54.16% of cases), followed by the student trainee (almost always in 50.00% of cases), then the pharmacist (almost always in 43.75% of cases).

3. Availability of the prescribed drug

A breakdown of cases according to the availability of the medicine prescribed showed that the medicine prescribed was almost always unavailable (17.70%).

4. Substituting a generic drug for the prescribed drug

The distribution of our sample according to the substitution of a generic for the prescribed drug revealed that the prescribed drug is often replaced by a generic in 64.58% of cases.

5. Dispute with the patient over the dispensing of the generic drug

The breakdown of the cases in our sample according to the conflicts encountered with patients when dispensing generic medicines showed that the generic medicine dispenser occasionally encounters a conflict with the patient in 52.09% of cases.

6. The non-conforming prescription

The distribution of our sample according to the cases of non-compliant prescriptions revealed that the dispensing physician rarely or never completes the missing information on the prescription without notifying the physician in 72.92% of cases. Often asking the patient to contact the doctor.

Table 03: Distribution of our sample according to the reaction of the dispensing practitioner in cases of non-compliant prescriptions

Variables	Almost Always	Often	Occasionally	Rarely/never
Adding to the prescription without informing the doctor	2,08%	8,33%	16,67%	72,92%
Ask the patient to join the doctor	17,70%	31,25%	35,42%	15,63%

The breakdown of cases in our sample by type of prescription showed that handwritten prescriptions (issued by a public institution) were in the majority (almost always 52.08%) compared with digitized prescriptions (issued by private doctors' surgeries).

7. Dispensing errors

A breakdown of the cases in our sample according to the errors observed when the medicine was dispensed showed that errors were rarely made (almost always 01.04%).

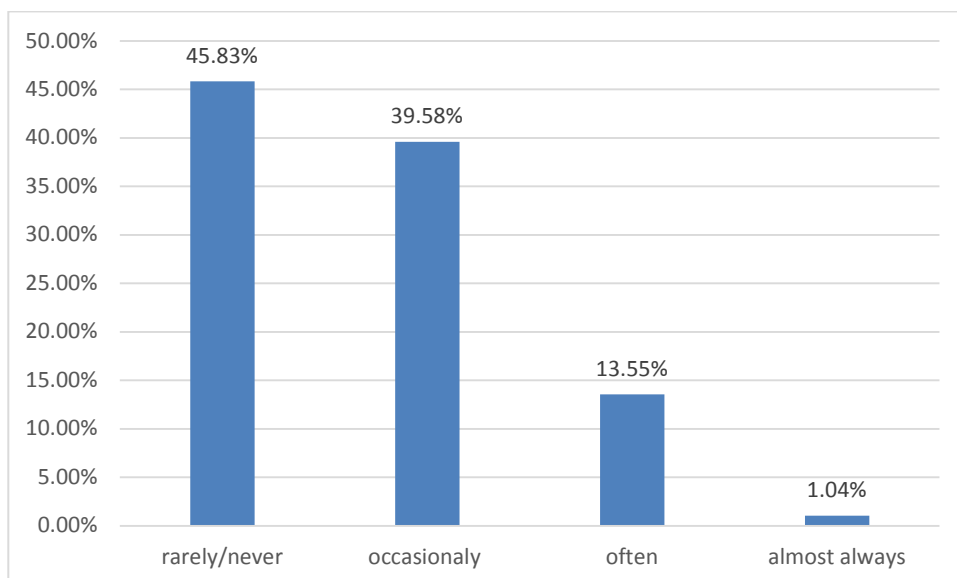


Figure 01 The distribution of cases in our sample according to the errors observed during the dispensing of the medicinal product.

IV. Discussion

We would point out that the studies found in the literature covering the constraints encountered by the retail pharmacist when prescribing are few in number and do not cover all the variables studied. However, the analysis of the remaining variables will be based on the results of our study.

1. Socio-demographic characteristics of the study population

According to a study carried out in Algeria (study of a sample of 100 pharmacists with a degree in pharmacy carried out in 2016, who were practicing permanently in three towns in eastern Algeria, Sétif, Mila and Bejaia, and have been in the profession for at least one year). The study population was equally divided by sex (52% women and 48% men), with an average age of 36.20 ± 8.04 . Moreover, according to the literature, pharmacies owned by female pharmacists were higher (53.5%) than those owned by their male counterparts (6).

On the other hand, our survey involved 96 dispensing pharmacists, divided into 66 women and 30 men. literature review showed that the average age of pharmacists is relatively young (36 year-old), which is in line with our results. In France, there is a trend towards an ageing profession, since the average age of French pharmacists is 46.6 years, which is contrary to our study, where the average age of the study population was 39.47 years, or almost 40 years. The minimum age of the population was 25, with a maximum age of 65 (5).

The average length of service in the population of the three towns in eastern Algeria, Sétif, Mila and Bejaia, was 10 years, which is almost similar to the average length of service of our population (8.25 years). The minimum length of service was 1 year, with a maximum of 25 years. These results indicate that this is a relatively good level of seniority for acquiring a good command of the trade.

2. Concerning the prescriber

A pharmacy is an establishment that can only be run by a pharmacist. His presence, or that of a substitute, is compulsory. Dispensing is a major part of a pharmacist's work and plays a vital role in optimizing a patient's treatment. It must therefore be carried out with care and rigor.

A study shows that 11.1% of prescriptions in pharmacies were dispensed by pharmacists, 5.7% by students who have passed their 5th year and 25.9% by health technicians. 37.8% of sales were made by staff with no specific health training. However, regulations require the effective presence of a pharmacist as long as the pharmacy is open to the public.

In 2005, SIDIBE found that dispensing pharmacists were 29.9%, and 4.8% for students who had completed the 5th year (7,8).

In a study carried out in Côte d'Ivoire by TRAORE, out of only 70 sales people, 5 had received training at school, and out of 72 pharmacists questioned, a third spent less than an hour a day at the pharmacy counter (9).

The distribution of cases in our sample according to the status of the dispenser of the prescription showed that the sales assistant represented the majority of cases (almost always in 54.16% of cases), followed by the student trainee (almost always in 50.00% of cases), then the pharmacist (almost always in 43.75% of cases). These results are consistent with those found in the literature.

3. Compliance of the order

In Mali, prescriptions must comply with regulations laid down by the health authorities. The mention of the patient's weight or age, the address and the prescriber's identity are of vital importance in analyzing the admissibility and validation of prescriptions. A study carried out in Mali revealed that only 7.6% and 5.4% of prescriptions mentioned the patient's age and weight respectively. Cross-referencing these variables with the status of the prescribers showed that it was the non-identified prescribers who were generally the authors of these prescriptions. Paramedical staff specified age in 10% of cases, while unidentified prescribers accounted for 3.5%. The results are close to those of KONATE, which were 5.3% for age and 3.2% for weight (5,9). The inclusion of these variables on prescriptions is a factor in ensuring safe dispensing.

For data relating to the identification of the prescriber, 85.3% of our prescriptions specified the address of the prescriber.

In another study, 35.8% of prescriptions had unidentified prescribers, and we know that a prescription without prescriber identification is not acceptable.

A study shows that the majority of prescribing malfunctions are linked to regulatory non-compliance and insufficient information, accounting for 40.5% of prescriptions studied (10,11,12,13).

A study involving 9 retail pharmacists and 43 hospital prescriptions presented to a pharmacy over a period of 15 days revealed the following malfunctions:

Poor quality of prescription writing: the prescriber's name is not written down or is illegible (75% of cases), the department's stamp is not present (75% of cases), the prescriber is difficult to contact if necessary (65% of cases).

A study shows that most of the prescribers were general practitioners (38.4%), while nurses accounted for 5.2%. These results are far from those of DEMBELE, who obtained 94.67% for doctors and 1.67% for nurses (14).

These differences could be explained by the location of DEMBELE's study, which was close to specialist prescription centers. In his study in Burkina, Peter M found that 27% of prescriptions were certified by a doctor.

A study shows that prescriptions prescribed by a GP accounted for 38.4%, followed by a

specialist (14.9%) and then an intern (03.1%). (15)

The distribution of cases in our study according to the quality of the prescriber revealed that general practitioners represented the majority (almost always in 52.08% of cases), followed by residents and specialists. This is consistent with data in the literature indicating the frequency of initial prescribing by general practitioners.

Incomplete prescriptions: the dosage of medication is not specified, even though there are several (90% of cases), and the equipment needed to administer the medication is missing (e.i. insulin injection pen needles).

A study shows that the quality of dispensing depends on the variables required for technical verification being included on the prescription. The dosage of the medicine prescribed was accurate in 88.3% of cases. 5.9% of prescriptions did not specify the duration of treatment. This type of prescribing makes dispensing considerably more difficult (4).

A cross-analysis with the prescriber shows that paramedical staff and non-identified prescribers were the least likely to specify the duration of treatment (4.1%). This may be due to negligence or lack of knowledge on the part of these prescribers. In another study, KONATE found that 62.7% of prescriptions specified the dosage (5).

Inaccurate prescriptions: the duration of treatment is not indicated and the characteristics of medical devices are not mentioned.

Errors in dispensing medication have become less frequent since the development of computerized prescriptions and prescribing assistance software. However, around 22% of GP prescriptions are still handwritten. Medicines are almost always dispensed on medical prescription in 60.41% of our sample. The distribution of cases in our sample according to the type of prescription revealed that handwritten prescriptions (issued by a public institution) represented the majority (almost always 52.08%) compared with digitized prescriptions (issued by private doctors' surgeries).

The distribution of cases in our sample according to prescriptions bearing the patient's name showed that the name was mentioned in the majority of cases (almost always in 83.33%). The distribution of cases according to prescriptions bearing the patient's age showed that age was almost always mentioned in 64.59% of cases. The distribution of cases according to the weight indicated on the prescription, when the patient was a child, showed that the weight was often indicated on the prescription (52.09%). The breakdown of cases according to the prescriber's first and last name on the prescription showed that the prescriber's identity was found in the majority of cases (almost always in 64.59% of cases). The distribution of cases according to the prescriber's address on the prescription revealed that the prescriber's address was found in the

majority of cases (almost always in 39.60%). The prescriber's stamp and signature and the date of the prescription were found in the majority of cases (70.83% and 68.75% respectively). Illegible prescriptions occasionally represented a rate of 55.21%.

According to our results, we deduce that the prescription complied with the regulations in the majority of cases. The non-conformity of the form of the prescription with the regulations makes it difficult to carry out certain pharmacist acts, in particular filling in the prescription form, contacting the prescriber in the event of an anomaly and the pharmacological analysis itself. In strict application of the regulations, these prescriptions will not be accepted, and this can be a source of tension between prescriber and dispensary.

So, if you have any doubts about a handwritten prescription, don't hesitate to ask another member of the pharmacy team for their opinion, and above all to communicate with the patient to find out whether it really corresponds to the therapeutic objective.

If the person dispensing the medicine is in any doubt, calling the prescriber is the best way to clarify the situation. The same applies to abbreviations of dubious interpretation. This is why the doctor-pharmacist relationship is also essential for reducing the number of errors and making the dispensing act safer. (Ordre des pharmaciens du Québec 2000).

One study showed that the variables relating to technical verification were accurate in the majority of cases, with 99.5% for the galenic form, 88.3% for the dosage and 96.3% for the posology, but the duration of treatment was specified in only 5.9% of cases. Errors of galenic form are therefore frequently confirmed, since they are less frequently detected by double-checking systems.

In another study conducted by KONATE in 2006 (5), 37.3%, 30.7% and 17.5% of prescriptions in Bamako did not include the dosage, 30.7% were without the prescriber's address and 17.5% without galenic. The breakdown of our sample according to the technical aspect of the prescription revealed that the galenic form (54.16%), the quantity (59.38%) and the dosage (62.50%) are almost always mentioned in the majority of cases (5). The duration of treatment and route of administration were occasionally mentioned. These results are consistent with those found in the literature.

These may be medicines that are not available in pharmacies. Some health products can only be dispensed by an in-house pharmacy in a health care establishment.

One of the possible consequences may be a delay in taking treatment, or even the interruption of treatment if the drug is not available. This applies to expensive and unusual drugs.

A study shows that 19% of prescribing malfunctions concern the non-availability of medicines in pharmacies (16,17)

The distribution of cases according to the availability of the medicine prescribed showed that the medicine prescribed was almost always unavailable (17.70%). This can lead to a delay in taking the treatment, or even to treatment being interrupted.

It should be noted that the pharmacist is jointly liable when dispensing products containing errors made by the doctor. Any inaccuracy, error, poor writing or illegible handwriting renders both the doctor and the pharmacist liable when dispensing medicines containing errors.

The review of the literature by Tam et al. (18) showed the importance of prescribing errors on patient admission, assessed by the differences between the treatment prescribed in hospital and the treatment received by the patient prior to hospitalization. Depending on the study, the number of patients with a prescribing error on admission has been estimated at between 10 and 67%.

According to Colpaert et al. (19), errors of dosage and pharmaceutical form were less frequent with computerized prescriptions than with handwritten prescriptions.

On the other hand, in the study by Shulman et al, errors in prescribing the wrong drug accounted for 5.1% of computerized medication errors, compared with 4.2% for handwritten prescriptions, but this was not tested for significance.

Prescription unit selection error: 25% of computer prescription errors according to Vialle et al. (20), in our study, the distribution of dispensing cases showed that errors are rarely made (almost always 01.04%).

In Mali, pharmacists have been granted the right of equimolecular generic substitution since 1995 (Decree no. 95-448 / P-RM). The pharmacist may substitute a reference or "originator" medicine under its brand name with a lower-priced generic medicine, or the pharmacist may dispense a different generic from that prescribed by the doctor, or even dispense the specialty as soon as the selling price is lower than or at most equal to that of the medicine prescribed.

In France, since 1999, pharmacists have been able to substitute an originator (reference product) with a generic product (Article L5125-23 of the CSP) (21). However, to do so, three conditions must be met:

Inclusion of the drug in question in the generics register of the *Agence Nationale de Sécurité du Médicament et des Produits de Santé* (ANSM) published in the *Journal Officiel*.

Absence of the prescriber's handwritten note "non-substituable" (in full, in front of the medicine concerned).

In addition, the pharmacist must ensure that the patient understands, and must rewrite the originator/generic equivalence on the prescription, and possibly on the packaging of the medicine dispensed (22).

Pharmacists are health professionals who have the right to substitute a medicine with its generic equivalent. The generic equivalent often corresponds to the international non-proprietary name (DCI) of the originator drug. Despite the fact that doctors have been obliged to prescribe medicines in INN format since 1 January 2015, which facilitates substitution, some prescriptions are still written in trade names. It is therefore up to the pharmacist to dispense the appropriate generic for the specialty prescribed. However, there are a multitude of trade names, even for the same active ingredient. This increases the risk of dispensing the wrong generic for a prescribed drug.

The distribution of our sample according to the substitution of a generic for the prescribed drug revealed that the prescribed drug is often replaced by a generic in 64.58% of cases.

The first way of limiting substitution errors is to provide the pharmacy team with a list of originator/generic equivalents so that everyone can consult it whenever there is any doubt. The same applies to the equivalence of contraceptive pills, which often pose problems because of the complexity and similarity of their names.

The breakdown of the cases in our sample according to the conflicts encountered with patients when dispensing generic medicines showed that the generic medicine dispenser occasionally encounters a conflict with the patient in 52.09% of cases.

According to the study carried out in 2016 among a random sample of 100 dispensing pharmacists practicing in Sétif, Mila and Bejaia, 33 pharmacists (33%) were unable to persuade patients to take generic drugs. 75 pharmacists (75%) had had conflicts with patients relating to the dispensing of generic drugs or psychotropic drugs. 8 cases (8%) had already had a serious problem with patients, involving a threat or death or a worsening of the patient's condition (6).

According to a study carried out in 2016 among a random sample of 100 dispensing pharmacists practicing in Sétif, Mila and Bejaia. In the event of errors, 49% referred the patient back to the prescriber, whereas a third of these patients refuse to do so. Wouldn't it be better to correct this error in situ? In our case, almost all pharmacists recommend reviewing the regulations on prescribing rights, because it would be practical to be able to rectify prescribing errors in the pharmacy to save time and make life easier for patients.

While prescribing medication is the responsibility of the doctor, dispensing medication is the responsibility of the pharmacist. Errors at this stage are less frequent, but can have serious consequences, as the patient will not receive the right medicine. This error occurs when there is confusion between products bearing similar labels, or as a result of a transcription error or simply a misreading of the prescription. In this study, more than half of pharmacists (58%) made the mistake of giving one drug instead of another. Such an attitude could have harmful consequences

for the patient and could engage the civil and criminal liability of the pharmacist himself, hence the importance of combating the sources of this error, in particular the illegibility of prescriptions and the workload.

The distribution of our sample according to the cases of non-compliant prescriptions revealed that the dispensing physician rarely or never completes the missing information on the prescription without notifying the physician in 72.92% of cases.

The majority of our study population complained about the illegibility of prescribers' handwriting. This phenomenon can have serious consequences if the prescription is misinterpreted by the pharmacist.

According to the *Association Solidarité des pharmaciens de l'Ouest (ASPO)*, this is a national problem, since a third of medical prescriptions are illegible in Oran, and during 2015 more than 100 people died as a result of illegible medical prescriptions.

To counter this, more than two thirds of those who experienced these difficulties preferred to seek the advice of colleagues, and more than half referred the patient to the prescribing doctor. Although the second course of action is the safest, it is nevertheless very time-consuming, which may explain why most pharmacists opt for the first course of action.

For those who did not experience these difficulties (14%), this could be explained either by their experience in pharmacy work or by the fact that they were used to working with the same prescribers.

In addition to illegible handwriting, visual acuity problems detected in our study population (10%) could also explain certain errors in reading prescriptions.

Prescribing drugs is a procedure that is affected by a number of risks, including prescribing errors.

A number of scientific studies have raised awareness of the risks involved in treating patients with medicines, and in particular of the avoidable nature of prescription errors. In the USA, medical error is cited as one of the major causes of death. In the case of our study, the majority of the study population sometimes made errors in medical prescribing. These errors are of several types: prescribing a drug that is out of stock or not available in Algeria, or prescribing errors. This problem is a worldwide scourge, despite the computerization of prescribing and the development of software to detect prescription errors. According to an American study, an analysis of 10778 pediatric prescriptions over a period of 6 weeks revealed 616 prescribing errors (5.7%).

In order to minimize these errors, dialogue between these two healthcare professionals is essential for better patient care. In relation to dosage errors, and according to the previous American study,

this type of error was the most frequent in this study (28%), demonstrating the scale of the problem.

In the event of errors, 49% referred the patient back to the prescriber, whereas a third of these patients refuse to do so. Wouldn't it be better to correct this error on the spot? In our case, almost all pharmacists recommend reviewing the regulations on prescribing rights, because it would be practical to be able to rectify prescribing errors in the pharmacy to save time and make life easier for patients.

The majority of our pharmacists dispensed medicines without prescriptions. This reflects the fact that the pharmacist-patient relationship does not always comply with ethical rules (self-medication, selection of medicines, choice of galenic form, etc.).

One study shows that the prescription is illegible (in 3.5% of cases, which represents 29% of avoidable telephone calls from the pharmacist to the doctor).

According to a study carried out in 2016 among a sample of 100 dispensing pharmacists practicing in Sétif, Mila and Bejaia, the majority (86%) often found it difficult to read a prescription; to deal with this, more than two-thirds of them either asked their colleagues for advice or referred the patient to the prescribing doctor (22).

While prescribing a drug is the responsibility of the doctor, dispensing the drug is the responsibility of the pharmacist.

The error linked to this stage is less frequent, but it can have serious consequences, as the patient will not receive the right medicine. This error occurs when there is confusion between products with similar labels, or as a result of a transcription error or simply a misreading of the prescription. In our case, more than half of pharmacists (58%) make the mistake of giving one drug instead of another. Such an attitude could have harmful consequences for the patient and could engage the civil and criminal liability of the pharmacist himself, hence the importance of combating the sources of this error, in particular, the illegibility of prescriptions and the workload.

Relationships with patients are a major source of stress for pharmacists. Conflicts, threats and aggression are the professional risks associated with this relationship.

In addition to illegible handwriting, visual acuity problems detected in our study population (10%) could also explain certain errors in reading prescriptions (22). In the USA, medical error is cited as one of the major causes of death.

There are many studies on the errors made by dispensing pharmacists in dispensing medicines, but few on professional constraints.

V. Methodological limitations

Having established the results observed in our study and their links with the literature, it is essential to set out the methodological limitations encountered in our study.

- A constraint encountered by dispensing pharmacists when filling in the questionnaire.
- The Likert scale is one of the ordinal scales. This type of scale was developed to obtain qualitative data such as the degree of satisfaction.
- The scale's performance is limited by the truthfulness of the person's answers. We were unable to check reproducibility because the study period was too short.

VI. Conclusion

The medical prescription is a link between the doctor and the pharmacist to achieve the appropriate treatment for the patient.

In our study, GPs accounted for the majority of prescribers, followed by residents and specialists. This indicates the frequency of initial prescribing by GPs. The sales assistant is the prescriber in the majority of cases, followed by the student trainee and then the pharmacist, which can have harmful consequences if the prescribing regulations are not understood.

Pharmacists encounter several constraints in prescribing that negatively influence the quality of their dispensing. The majority of our study population complained about the illegibility of prescribers' handwriting. This phenomenon can have serious consequences if the prescription is misinterpreted by the pharmacist. Handwritten prescriptions (from a public institution) are in the majority compared with digitized prescriptions (from private doctors' surgeries). Errors in dispensing medication have been less frequent since the development of computerized prescriptions, with prescribing assistance software. We found that the drug prescribed is often replaced by a generic. When dispensing a generic drug, the generic dispensing agent occasionally encounters a conflict with the patient.

A prescription must comply with regulations laid down by the health authorities. The mention of the patient's weight or age, the address and the identity of the prescriber are of vital importance in analyzing the admissibility and validation of prescriptions. In our study, the majority of prescriptions complied with the regulations. Negligence or ignorance on the part of these prescribers was sometimes observed. The technical aspect of the prescription was respected in the majority of cases; the galenic form, quantity and dosage were almost always mentioned. The duration of treatment and route of administration were occasionally mentioned.

The fact that the form of the prescription does not comply with the regulations makes it difficult to carry out certain pharmacist acts. If the regulations are strictly applied, these prescriptions will not be accepted, and this can be a source of tension between prescriber and dispenser. This is

why the doctor-pharmacist relationship is also essential to reduce the number of errors and make the dispensing act safer.

It should be noted that the pharmacist is jointly responsible for dispensing products containing errors made by the doctor. Any inaccuracy, error, poor writing or illegible handwriting engages the responsibility of the doctor and that of the pharmacist when dispensing medicines with errors. Such an attitude could have harmful consequences for the patient, hence the importance of combating the sources of this error.

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