



ISSN : 2350-0743

www.ijramr.com



International Journal of Recent Advances in Multidisciplinary Research

Vol. 10, Issue 12, pp.9314-9318, December, 2023

RESEARCH ARTICLE

MEDICATIONS PRESCRIBED FOR PAIN AND DEPENDENCE: SURVEY IN DAKAR REGION.

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ARTICLE INFO

Article History:

Received 17th September, 2023

Received in revised form

29th October, 2023

Accepted 25th November, 2023

Published online 25th December, 2023

Key Words:

Medications – Pain – Poisonous –
Dependence – Opioids – CPIAD.

ABSTRACT

Introduction: In order to effectively relieve pain, doctors prescribe medications containing poisonous substances. However, we have observed that patients who have used such treatment have been admitted to Fann Addiction Center. The objective of our work was to conduct a survey on medications prescribed for pain likely to create dependence, in pharmacies in Dakar region. **Methodology:** We carried out, on the one hand, a survey on medications prescribed for pain, coupled with an interview with the Director of the Dakar Integrated Addiction Care Center (CEPIAD), on the impact of taking medication. these drugs in patients treated in their center. **Results and Discussion:** Apart from Lindilane, Sédaspir®, Codoliprane® and Colchimax® were available in (100%) of the pharmacies visited, with disparities for Dafalgan Codeine® and Tofranil®. Colchimax®, Sédaspir® and Codoliprane®, each with 20 g of codeine per dose unit, were available over the counter in certain pharmacies. 71% of people surveyed know the composition of pain medications. Errors noted are mainly related to opiates at 85.71%, rather than to analgesics at 14.29%. Regarding specialties Ixprim® (tramadol) and Sédaspir, 37% of professionals did not know that they contained morphine. The dependence linked to these drugs was known to professionals, while for some (46%), Sédaspir could not induce dependence. **Conclusion:** Medications prescribed for pain should be handled with caution. The patients admitted to the CPIAD had actually developed dependencies after taking the said medications.

INTRODUCTION

Pain, which varies between cultures and individuals, at the border of body and mind, has long been neglected by medicine. It was not until the 20th century that it was the subject of more in-depth research(1). According to the official definition of the International Association for the Study of Pain (IASP), “pain is an unpleasant sensory and emotional experience associated with or described in terms of actual or potential tissue damage”(2) ; (3). Pain relief is a common reason people seek medical care. The WHO has established a hierarchy for pain medications ranging from paracetamol at the first level (over-the-counter) to morphine (step level) to tramadol (step level 2). The use of step level 2 and 3 analgesics, also called weak and strong opioids, and co-analgesics, is necessary in certain situations (4). Opioid analgesics are a common choice for patients with acute pain, but their prescription for chronic pain remains controversial due to the high risk of developing dependence (5). In Senegal, certain medications containing poisonous substances and used in the treatment of pain are not subject to compulsory medical prescription. Thus, we were able to observe that these medications necessary for the treatment of pain, prescribed or sold freely, or recommended, led to dependencies.

Thus, simple clients who used these drugs developed an addiction and ended up at the Addiction Center at Fann Hospital. Hence the interest of our work, the objective of which was to study medications prescribed for pain, which are likely to create dependence.

Main objective

The general objective of this work was to study medications prescribed for pain, likely to create dependence, in pharmacies in Dakar region.

Specific objectives

- Check the availability of pain medications that are the subject of our work;
- Evaluate the level of knowledge of staff on the composition of medications found in pharmacies;
- Describe the method of dispensing medications prescribed for pain;
- Evaluate the level of knowledge of staff on the use of medications prescribed for pain;
- Discuss with professionals from the Dakar Integrated Addiction Care Center (CEPIAD) causes of dependence linked to medications prescribed for pain.

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MATERIALS AND METHODS

Materials used: A questionnaire was developed for the study and administered to pharmacy staff (holders, assistants, trainees and salespeople). Mayité was used for the review of international nonproprietary names of pain medications.

Methodology

Type of study: A descriptive, cross-sectional study on pain medications, coupled with a retrospective survey on the impact of prescribing (or taking these medications) in patients treated by CEPIAD from January 1, 2021 to December 31, 2021.

Collection of data: We first conducted a literature review to select 17 medications used for the treatment of pain. Then, a one-month survey (June 1 to 30, 2022) was carried out in thirty (30) pharmacies chosen randomly in the Dakar region, particularly in municipalities of Médina, Dakar-Plateau, Fann-Point E- Amitie, Biscuiterie, Djeupeul-Derklé, Gueule Tapée-Fass-Colobane, Grand Dakar and Grand Yoff. Then, we researched availability of said drugs, their composition, their method of delivery, and level of knowledge of the staff on their use. Finally, we spoke with professionals from Dakar Integrated Addiction Care Center (CEPIAD), to gather their suggestions on the issue.

Data analysis: Data collected was analyzed using an Excel spreadsheet (version 2007), in the form of tables and graphs. Pain, which varies between cultures and individuals, at the border of body and mind, has long been neglected by medicine. It was not until the 20th century that it was the subject of more in-depth research (1). According to the official definition of the International Association for the Study of Pain (IASP), “pain is an unpleasant sensory and emotional experience associated with or described in terms of actual or potential tissue damage”(2); (3). Pain relief is a common reason people seek medical care. The WHO has established a hierarchy for pain medications ranging from paracetamol at the first level (over-the-counter) to morphine (step level) to tramadol (step level 2). The use of step level 2 and 3 analgesics, also called weak and strong opioids, and co-analgesics, is necessary in certain situations (4). Opioid analgesics are a common choice for patients with acute pain, but their prescription for chronic pain remains controversial due to the high risk of developing dependence (5). In Senegal, certain medications containing poisonous substances and used in the treatment of pain are not subject to compulsory medical prescription. Thus, we were able to observe that these medications necessary for the treatment of pain, prescribed or sold freely, or recommended, led to dependencies. Thus, simple clients who used these drugs developed an addiction and ended up at the Addiction Center at Fann Hospital. Hence the interest of our work, the objective of which was to study medications prescribed for pain, which are likely to create dependence.

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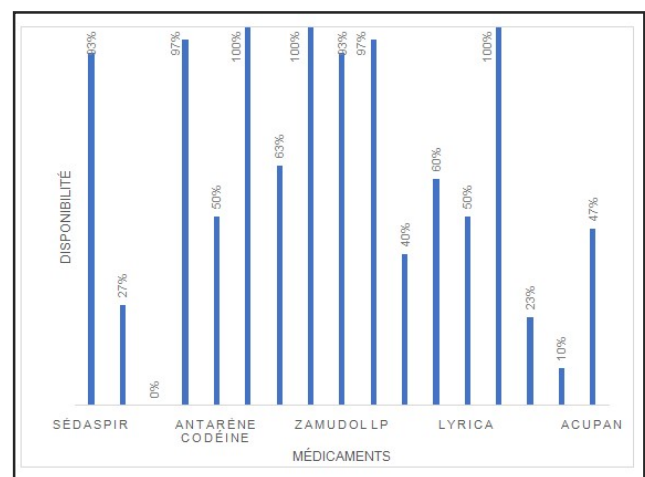


Figure 1. Availability of targeted drugs in our work

Data analysis: Data collected was analyzed using an Excel spreadsheet (version 2007), in the form of tables and graphs. Apart from Lindilane, all other targeted specialties, notably Codoliprane® (codeine), Colchimax® (opium) and Tégretol® (carbamazepine) were 100% available in all pharmacies surveyed. Dafalgan Codeine®, Cymbalta® and Tofranil® had an availability that can be described as relatively low (less than 30%) compared to those of Sédaspir®, Codoliprane® and Colchimax® (100%) which are maximum.

This heterogeneous result was predictable given the multitude of specialties available from wholesalers, which are most often found in pharmacies.

Method of dispensing medicines

Free sale of opioids : Sédaspir® Codoliprane® and Colchimax® are available over the counter by some respondents. This result is surprising because on the one hand, Colchimax is a List 1 drug which must only be dispensed on medical prescription, and on the other hand, because Sédaspir and Codoliprane, although appearing among the so-called drugs over-the-counter, both contain 20 grams of codeine per unit taken(6).Codeine is a narcotic, the prescription of which is subject to said regulations (7). Herdelivery must only be done on medical prescription, which cannot exceed a treatment duration of twelve months(8).

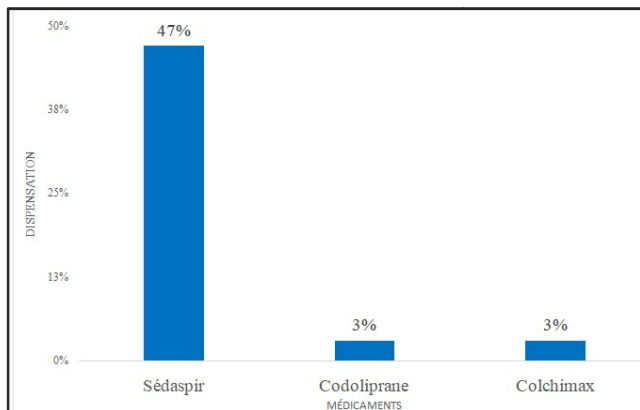


Figure 2. Medicines dispensed over the counter.

Opioid Council: We can affirm from Figure 3 that the opioid medications Dafalgan Codeine®, Efferalgan Codeine®, as well as Acupan are dispensed in counseling; which is in contradiction with the regulations in force. This situation could be explained by the exclusive monopoly of the pharmacist who “unless prohibited, can deliver without prescription all the products or objects of the pharmaceutical monopoly”. Also, renewal of the prescription by pharmacist is possible for products in lists I and II, unless the prescriber requests it or expressly prohibits it (9). However, the dispensation of medicines for human use listed on lists I and II is done by prescription. Indeed, opioid, anti-epileptic and antidepressant medications should therefore only be dispensed on medical prescription (10). As for (Lamaline® Colchimax® Zamudol LP® Tramadol Arrow® and Ixprim®), they can be obtained by advice according to 3% of respondents.

Sale upon presentation of a prescription: Dafalgan Codeine®, Efferalgan Codeine®, Tramadol Arrow® and Tégretol® are available by prescription only. Furthermore, we noted that 40% of respondents (12/30) dispense all these medications only on presentation of prescriptions, which is normal with regard to the legislation. In addition, co-analgesics are only available on presentation of a medical prescription for 100% of respondents.

Knowledge on composition of medicines: Among those surveyed, 53% stated that Lindilane® did not contain codeine; 37% of respondents did not indicate that Ixprim® contained tramadol; 27% of respondents did not indicate that Colchimax® contained opium; 13% of respondents did not

indicate that Zamudol LP® contained tramadol; 7% of respondents did not indicate that Lamaline® contained opium. 3% of respondents did not indicate that Neurontin® contained codeine. Among respondents, 33.33% stated that specialty Sedaspir® did not contain codeine. With a minimum percentage of 71% of correct answers, we can deduce a good general knowledge of the drugs studied. However, a trend emerges: errors were noted mainly on opiates rather than on co-analgesics with 85.71% errors on the level of knowledge of the composition. The unavailability of Lindilane® in pharmacies surveyed could explain, without justifying, the compositional errors concerning it. But we must note for the specialty Ixprim® (tramadol) that the percentage is 37%. Concerning Sedaspir, errors on level of knowledge demonstrate that it is possible to dispense codeine(35)without knowing it in 33% of the pharmacies surveyed. Codeine plays a role in the treatment of mild to moderate pain. This situation is linked on the one hand to sellers who distribute most of these products without any training(11). This would raise a great detriment to customers, given the numerous side effects and contraindications posed by these products.

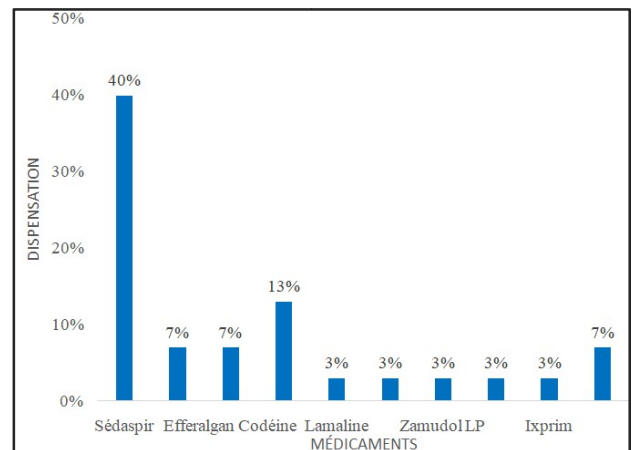


Figure 3. Medications dispensed in counseling

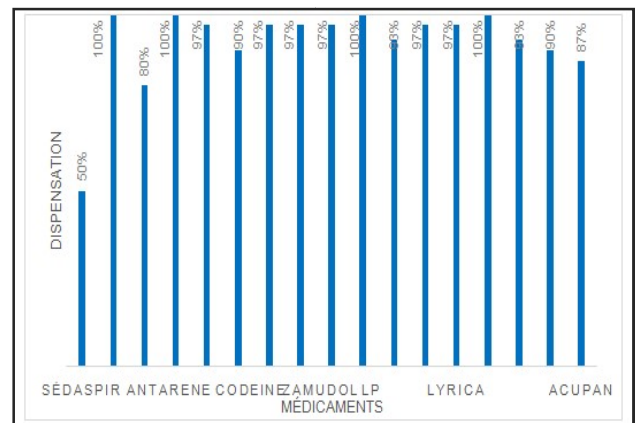


Figure 4. Medicines dispensed with a prescription.

Knowledge on dependence induced by these medications: We can affirm here that the professionals had a satisfactory general knowledge of the dependence linked to these drugs. Indeed, 33.33% of the professionals surveyed were 100% aware that these medications caused dependence; and 50% had a knowledge level of more than 75%. We found that opioid medications were well known to respondents as being capable of causing dependence, with exception of Sedaspir where 46% of respondents thought that it could not induce dependence.

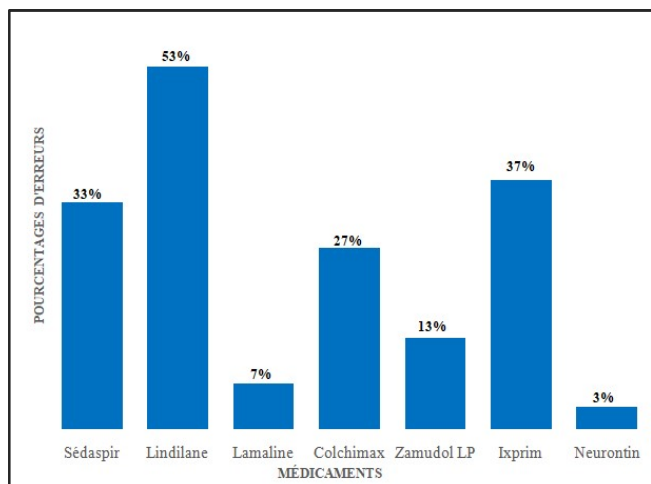


Figure 5. Percentage of errors on knowledge of composition

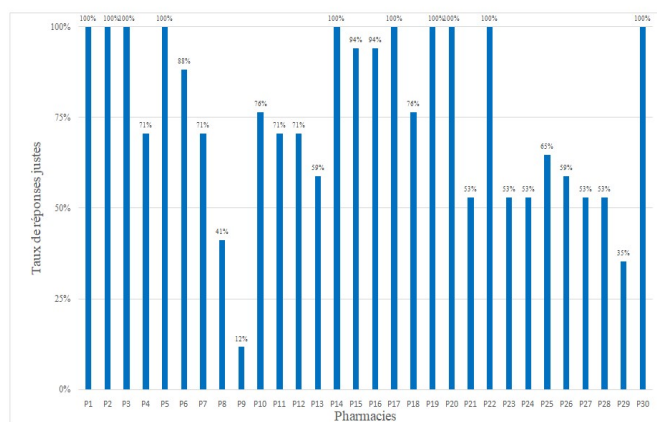


Figure 6. Percentage of correct answers on induced dependence

However, opioids, like antidepressors, could cause physical and psychological dependence. Pregabalin induces a withdrawal syndrome when stopping treatment, whether short or long. This situation could result from holdersabsenteism, but also from the lack of involvement of College of Pharmacy in the continuing training of practicing pharmacists. Indeed, continuing professional development is an obligation for all practicing pharmacists, controlled by the College of Pharmacy (12).

CEPIAD staff feed back

It emerges from our interview with CEPIAD professionals that patients who were admitted to their structure during the 2020-2021 period had actually developed dependencies, following the use of pain medication. The drugs in question consisted of codeine, tramadol and Amitriptyline. According to CEPIAD staff, the use of Medicines containing opioids and antidepressors have different consequences depending on the individual, hence the need for a medical consultation before initiating treatment (13). Concerning increase in number of opioid prescriptions, it would be linked to several causes, in particular to doctors who prescribe them a little too often due to ignorance and falsified prescriptions; and to pharmacists and sellers who dispense them without a prescription. This situation risks leading to an opioid crisis if regulations are not strictly enforced by the national regulatory authority.

CONCLUSION

Pain treatment involves poisonous substances that can be used for criminal purposes and can be a source of accidents. Regarding dispensation, in addition to Colchimax®, a drug from list I, Sédaspir® and Codoliprane®, which each contain 20 g of codeine per dose unit, were dispensed over the counter in certain pharmacies. Concerning the level of knowledge of the composition, 71% of those surveyed answered correctly. However, errors were mainly noted on opiates 85.71%, rather than on analgesics (14.29%). Also, we found that for the specialties Ixprim® (tramadol) and Sédaspir, 37% of the professionals surveyed did not know that they contained morphine. As for dependence linked to these medications, 33.33% of the professionals surveyed had satisfactory general knowledge in 100% of the pharmacies visited. However, 46% of the professionals surveyed thought that Sédaspir could not induce dependence. Consequently, according to CEPIAD Manager, such drugs must be handled with caution, especially considering addiction they could induce. As a perspective, it will be necessary to strengthen capacities of health professionals, on opioids prescription and dispensation.

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