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The profile of opioid users in Morocco: Results of a survey of 153 pharmacists

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Abstract

Introduction: Opioid use today represents a major public health issue, both for their essential role in pain management and for the risks associated with their misuse, addictive potential, and adverse effects. The accessibility of molecules such as codeine or tramadol raises concerns regarding proper use and the frequency of self-medication. In this context, the community pharmacist, as a local healthcare professional, occupies a strategic role in securing dispensation, providing therapeutic guidance, and preventing risky use.

Methods: A descriptive survey was conducted among 153 community pharmacists. The questionnaire explored pharmacists' training and the challenges they face in managing opioids.

Results: Among respondents, 79% reported having received specific training. Codeine appears to be the most frequently dispensed opioid (71.4%). Furthermore, 87% of professionals reported having identified non-compliant prescriptions. Training seems to promote the adoption of practices aimed at reducing the risks associated with opioid use.

Conclusion: The proper use of opioids remains a challenge, characterized by significant self-medication, imperfect adherence, and underreporting of adverse effects. The pharmacist's role is crucial in securing dispensation and preventing misuse, highlighting the need to strengthen continuous training and collaboration between prescribers and pharmacists.

Keywords: Opioids; Self-Medication; Misuse; Pharmacovigilance; Pharmacist Role

1. Introduction

For centuries, opioids have been an indispensable pillar in the management of pain, whether acute or chronic. Their therapeutic efficacy is well-established, but their use requires a delicate balance between the relief they provide and the risks of dependence they can induce.

In Morocco, as in many countries, opioid consumption is subject to increased surveillance due to their potential for abuse, misuse, and the resulting complications. The emergence of increasingly diverse user profiles, ranging from patients treated for severe pain to consumers in non-medical contexts, highlights the importance of better understanding consumption practices, vulnerability factors, and their consequences. This diversity of profiles and usage contexts raises several essential questions: Who consumes opioids and for what reasons? In what settings are these substances used? What are the current trends in prescription and dispensing in pharmacies? What risks are emerging in terms of abuse, misuse, or pharmacodependence?

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It is in this perspective that the present survey, conducted among community pharmacists, aims to provide a precise overview of opioid use. It specifically focuses on analyzing their impact on users and pharmaceutical activity, evaluating the role of pharmacists in managing these treatments, and exploring risk reduction strategies and access to care conditions.

Thus, this survey aims to contribute to a better understanding of opioid consumption in Morocco, in order to strengthen prevention actions, optimize management, and support regulatory efforts for these substances that are both indispensable and potentially dangerous.

Objective of the study

In Morocco, the ambivalence between proven therapeutic efficacy and the high risk of harmful opioid use places community pharmacists at the center of a major public health issue.

With this in mind, a questionnaire was designed for community pharmacists, pharmacy technicians, and pharmacy students.

The objective of this study is to provide a precise portrait of opioid users, analyze the impact of these substances on patients and pharmacy practice, evaluate the involvement of professionals in managing opioid treatments, and explore existing risk reduction strategies and access to care conditions.

The analysis of the results from this survey will allow for a better understanding of the real dynamics of access to opioids in pharmacies and highlight the essential role of the pharmacist in promoting proper use, monitoring treatments, and preventing misuse.

2. Materials and methods

2.1. Study Type

This is a descriptive analytical observational study.

2.2. Location

The survey was conducted using a questionnaire. In the cities of Rabat and Marrakech, the questionnaire was distributed in person, particularly within pharmacies, allowing for direct collection of responses. In other cities, the questionnaire was distributed online via various digital platforms to broaden the study's reach and gather a larger number of responses.

2.3. Period

The survey was conducted over a period of 6 months, between June and November 2025.

2.3.1. Sample

- Pharmacists
- Pharmacy assistants or technicians
- Pharmacy students (5th and 6th year).

2.3.2. Inclusion Criteria

No additional criteria were considered; all responses were included in our study.

2.3.3. Ethical Considerations

Clearly inform participants about the study objectives, methodology, intended use of data, and their rights as participants.

Ensure the confidentiality and protection of participants' identities, avoiding the collection of non-essential personal data

2.4. Questionnaire Development and Content

A structured questionnaire with 38 questions was developed to gather information on the profile of opioid users in pharmacies. It covered several areas: general information, socio-demographic characteristics, awareness and risk management, impact of opioids, role of pharmacists, and risk reduction strategies.

The questions were primarily closed-ended, multiple-choice, or dichotomous ("yes," "no," "rarely," "often"). The questionnaire was administered online via Google Forms.

3. Results

Following the multiple results obtained from the survey, only a few will be presented and discussed in this article.

3.1. Socio-professional Data

3.1.1. Professional Status

This questionnaire reached various categories of healthcare professionals, with a predominance of 5th/6th-year pharmacy students (38.3%), followed by pharmacists (34.4%) and pharmacy assistants (26.6%), reflecting diverse participation according to professional status.

3.1.2. Distribution of Respondents by Years of Professional Practice

The majority of respondents had less than five years of professional experience (54.2%), followed by those with five to ten years of experience (32.7%), while a smaller proportion had been practicing for over ten years (13.1%).

3.1.3. Distribution of Responding Healthcare Professionals by Region of Practice

This questionnaire involved healthcare professionals practicing in different regions of the Kingdom. The majority of respondents came from the Rabat-Salé-Kénitra region (approximately 55%), followed by the Marrakech-Safi region (nearly 18%) and Casablanca-Settat (approximately 9%). Other regions were represented in smaller proportions, reflecting geographical diversity among respondents.

3.2. Socio-demographic Profile of Users

3.2.1. Distribution by Age

Regarding the average age of opioid users encountered in pharmacies, healthcare professionals predominantly reported an age group between 18 and 30 years (39%), followed by the 46 to 60 years group (37%). Users aged 31 to 45 represented a smaller proportion (14.9%). Conversely, users under 18 years old (0.6%) and those over 60 years old (7.8%) were reported less frequently by respondents.

3.2.2. Distribution by Sex

Concerning the sex of the most frequently encountered opioid users in pharmacies, healthcare professionals predominantly reported a male predominance (56%). A significant proportion of respondents indicated a female majority among users (32%), while an equal balance between sexes was reported by 12% of participants.

3.2.3. Geographical Distribution of Opioid Users by Living Environment

The majority of opioid users reside in urban areas (74%), while just over a quarter come from rural areas (26%). This distribution highlights a predominance of opioid use in urban settings.

3.3. Awareness and Risk Management

3.3.1. Distribution of Pharmacy Staff by Training in Opioid Management

The majority of respondents (79%) stated they had received training concerning the risks associated with opioid use, while 21% indicated they had not received specific training.

3.3.2. Distribution by Assessment of User Awareness Level Regarding Opioid Abuse Risks

The majority of respondents estimate that the level of user awareness regarding opioid abuse risks is average (59.1%), while (33.1%) consider it low. Conversely, only small proportions consider users to have a good (3.9%) or very good (3.9%) level of awareness.

3.3.3. Distribution by Frequency of Dispensing Opioids on Prescription in Pharmacies

Results indicate that opioid dispensing on prescription is mostly carried out a few times a week (70%). A significant proportion of respondent's report dispensing a few times a month (19%), while daily dispensing remains limited (7%). Finally, a small proportion indicates dispensing opioids very rarely (4%).

3.3.4. Distribution by Types of Opioids Primarily Dispensed in Pharmacies

Results indicate that codeine constitutes the most frequently dispensed opioid in pharmacies, representing 71.4% of responses. Tramadol ranks second with 26% of dispensations. In contrast, morphine-based medications are very poorly represented, accounting for only 2.6% of cases.

3.3.5. Distribution by Detection of Non-Compliant Opioid Prescriptions

Results show that the majority of pharmacy professionals report having encountered non-compliant opioid prescriptions, representing 87% of respondents. Conversely, 13% indicate they have not faced this type of situation.

3.3.6. Distribution by Frequency of Observing Cases of Opioid Misuse or Abuse in Pharmacies

Responses show that cases of opioid misuse or abuse are primarily observed weekly by pharmacy professionals (56.2%). A significant proportion of respondents indicate observing them rarely (36.6%). Conversely, daily observations remain limited (6.5%), while a very small proportion reports never having encountered this type of situation (0.7%).

3.3.7. Distribution by Main Anomalies Observed in Cases of Opioid Prescriptions Not Complying with Recommended Doses

Responses indicate that the most frequently observed anomaly concerns dangerous combinations with other medications, representing 39% of reported situations. Lack of precision regarding the patient's diagnosis also constitutes a significant anomaly, cited in 26% of cases. Furthermore, prescription renewal before the scheduled date without justification is reported in 21.4% of situations, while inappropriate dosage is less frequently observed, representing 12.3% of responses.

3.3.8. Distribution by Actions Taken to Limit Opioid Prescription Errors

Results show that the most frequently adopted measure by pharmacy professionals is to verify the prescription with the prescribing physician in case of doubt, cited by 77.2% of respondents. Limiting the number of dispensed units is reported by 14.6% of professionals, while long-term prescription monitoring is less frequently implemented, representing 8.2% of responses.

3.3.9. Distribution by Receipt of Opioid Requests Related to Diversion for Addiction Purposes

Results indicate that the majority of pharmacy professionals report receiving opioid requests related to diversion for addiction purposes, representing 82% of respondents. Conversely, 18% indicate they do not encounter such requests in their practice.

3.3.10. Distribution by Receipt of Requests for Opioids for Self-Medication

Results indicate that the vast majority of pharmacy professionals report receiving requests for opioids for self-medication, representing 94.2% of respondents. Conversely, a small proportion (5.2%) indicates they do not encounter such requests in their practice.

3.3.11. Distribution by Frequency of Requests for Opioids for Self-Medication

Results show that requests for opioids for self-medication are most often observed weekly, representing 70% of responses. A significant proportion of professionals indicate encountering these requests rarely (19%), while a minority reports a daily frequency (11%).

3.4. Impact of Opioids on Users and Pharmacies

3.4.1. Distribution by Detection of Suspicious Behaviors During Opioid Purchase or Request

Results show that almost all pharmacy professionals report having observed suspicious behaviors related to the purchase or excessive demand for opioids, representing 95% of respondents. Conversely, a small proportion (5%) indicates they have not encountered such situations in their practice.

3.4.2. Distribution by Perceived Impact of Opioid Addiction on Patient Management

Results show that for a large majority of pharmacy professionals, opioid addiction complicates patient management and prescription handling, a perception reported by 71.2% of respondents. Furthermore, 19.6% believe they do not have sufficient experience to comment on this impact. Conversely, a minority (9.2%) considers opioid addiction a secondary problem compared to other aspects of patient management.

3.4.3. Distribution by Behaviors and Signs Observed in Patients Suspected of Opioid Misuse

Results show that the most frequently observed behavior in patients suspected of misuse is insistence on obtaining a specific medication, reported by 66% of pharmacy professionals. Frequent visits without a valid prescription also constitute a notable sign, cited in 19% of cases. Furthermore, a neglected appearance or anxious state is observed in 15% of patients suspected of misuse. These elements indicate suggestive behaviors that can alert professionals to a potential risk of opioid misuse.

3.5. Involvement of Pharmacists in Managing Opioid Treatments

3.5.1. Distribution by Types of Specific Advice Sought from Pharmacy Professionals

Results indicate that pharmacy professionals are mostly sought for advice related to the risks associated with opioids, with this demand reported by 60.8% of respondents. Management of adverse effects also constitutes a frequent reason for consultation, representing 18.3% of responses.

Furthermore, advice concerning gradual cessation or dose reduction is mentioned by 17.6% of professionals. Conversely, a small proportion of respondents (3.3%) indicate not having been consulted for this type of specific advice.

3.5.2. Distribution by Frequency of Patient Consultations for Reporting Opioid-Related Adverse Effects

Results indicate that the majority of pharmacy professionals are rarely consulted by patients to report opioid-related adverse effects, a situation reported by 75.2% of respondents. Furthermore, 13.7% state they are never consulted for this reason, while 9.8% indicate they are often consulted. Conversely, very frequent consultations for reporting adverse effects remain exceptional, representing only 1.3% of responses.

3.5.3. Distribution by Most Frequently Reported Opioid Adverse Effects by Patients

Responses indicate that physical or psychological dependence constitutes the most frequently reported adverse effect by patients, representing 42.1% of cases. Drowsiness (23.4%) and constipation (18.1%) are also commonly reported adverse effects. Nausea and vomiting concern 11.7% of patients.

Conversely, manifestations such as dizziness (1.8%), mental confusion (1.8%), and headaches (1.2%) are reported much more marginally.

3.5.4. Distribution by Frequently Given Advice for Managing Opioid Adverse Effects

Results show that the most frequently given advice by pharmacy professionals is to recommend the patient consult the prescribing physician, this option being reported in 78% of cases. Dose adjustment is mentioned by 12% of respondents, while taking symptomatic treatment, such as a laxative or anti-nausea medication, is advised in 10% of situations.

These results reflect an approach primarily oriented towards medical re-evaluation of the prescription in case of opioid-related adverse effects.

3.5.5. Distribution by Difficulties in Balancing Pain Management and Abuse Prevention

Results show that a majority of pharmacy professionals experience difficulties in maintaining a balance between managing patient pain and preventing abuse or dependence risks. Indeed, 51% of respondents state that reconciling

these two objectives is difficult. Furthermore, 41.8% indicate encountering difficulties but manage to overcome them with the tools available.

Conversely, a small proportion of professionals (7.2%) consider they do not encounter difficulties and find a good balance between pain management and prevention of related risks.

3.5.6. Distribution by Obstacles to Opioid Risk Reduction

Results show that the most frequently encountered obstacle by pharmacy professionals in implementing opioid risk reduction strategies is patient resistance to following these strategies, cited by 72.1% of respondents. Lack of specific training also constitutes a notable barrier, reported by 19.5% of professionals. Conversely, the lack of resources or tools, such as adapted guides or materials, is less frequently mentioned and concerns 7.8% of responses.

3.6. Specific Training for Pharmacists

3.6.1. Distribution by Professional Seniority

A comparative analysis was conducted to examine the existence of an association between the professional seniority of pharmacy staff and having benefited from specific training in opioid management.

This analysis aims to assess the influence of professional experience on access to training and on the preparation of professionals for the challenges related to opioid use and misuse.

Pharmacists with over five years of professional experience predominantly report having benefited from training, with proportions exceeding 88% in the "5-10 years" and "over 10 years" groups.

Conversely, among pharmacists with less than five years of practice, the proportion of untrained individuals remains relatively high (30.1%). These results indicate that specific training appears to be more integrated into the professional path of experienced pharmacists, while it seems to be insufficiently systematized at the beginning of their careers.

3.6.2. Distribution by Professional Status

Pharmacists (86.8%) and pharmacy assistants (85.4%) more frequently report having benefited from specific training than 5th/6th-year pharmacy students (67.8%), suggesting that access to this type of training increases with professional experience and responsibility level.

3.6.3. Distribution by Offering Non-Opioid Alternatives for Pain Management

Among professionals reporting offering non-opioid alternatives, 96.7% report having benefited from specific training, while 84.4% state they have not. Conversely, among those not offering non-opioid alternatives, 3.3% indicate having received specific training, compared to 15.6% who have not benefited from training.

3.7. Constraints and Difficulties in Opioid Management in Pharmacies

3.7.1. Distribution of Difficulties Encountered in Pharmacies by Patient Type :

Management of suspicious prescriptions is reported by 35.5% of pharmacies with mixed patient populations, 53.7% of urban pharmacies, and 40.0% of rural pharmacies. Abusive patient requests concern 51.3% of mixed pharmacies, 43.3% of urban pharmacies, and 50.0% of rural pharmacies. Finally, the lack of clear protocols is reported by 13.2% of pharmacies with mixed patient populations, 3.0% of urban pharmacies, and 10.0% of rural pharmacies.

3.7.2. Distribution of Difficulties Encountered in Pharmacies by Professional Seniority :

A comparative analysis was conducted to examine the association between pharmacists' professional seniority and the difficulties encountered in pharmacies when managing opioid users. The results presented allow for an assessment of the existence of a statistically significant relationship between these two variables.

Regardless of professional seniority, the most frequently reported difficulties concern the management of suspicious prescriptions and situations of abusive patient demands.

Indeed, these two difficulties are observed in high proportions among pharmacists with less than five years of experience, those practicing for five to ten years, and those with over ten years of seniority. Conversely, the lack of clear

protocols is mentioned less frequently, with percentages remaining below 10% across all professional experience groups.

4. Discussion

4.1. Introduction

The survey conducted among community pharmacists is part of a context marked by increasing opioid use and heightened attention to their proper use, due to the risks of misuse, dependence, and associated adverse effects. Pharmacists occupy a strategic position in the therapeutic management chain, particularly through their role in dispensing, pharmaceutical counseling, and preventing complications related to opioid use.

Studies conducted in Europe and North America show that pharmacists are often the first point of contact for patients experiencing adverse effects or having questions about their pain management treatment, especially when it is prescribed long-term. Their accessibility and regular interactions with patients give them a privileged position to detect at-risk situations early, such as overuse, poor adherence, or unmonitored self-medication [1-3].

In this context, the pharmacist's role extends beyond dispensing medication to include vigilance, therapeutic education, and personalized support. Several studies have shown that pharmacist intervention, particularly through counseling, prescription evaluation, and pharmaceutical follow-up, contributes to improving the safety of opioid use and reducing risky behaviors.

Thus, the analysis of responses collected from pharmacists in our study not only identifies practices and difficulties encountered in the field but also allows for a better understanding of potential levers for improvement in terms of training, coordination with prescribers, and strengthening the pharmacist's role in the safe management of opioids. This approach is part of a public health perspective aimed at promoting rational opioid use and limiting the risks associated with their misuse.

4.2. Sociodemographic and Professional Characteristics of Pharmacists :

The analysis of the sociodemographic and professional characteristics of the pharmacists who participated in the study highlights a diversity of profiles. Respondents are mainly distributed among 5th/6th-year pharmacy students (38.3%), licensed pharmacists (34.4%), and pharmacy assistants (26.6%). This distribution allows for an understanding of professional practices at different stages of experience and pharmaceutical responsibility, thus offering a comprehensive view of opioid management in pharmacies.

The majority of participants practice in urban settings, with a predominance of the Rabat-Salé-Kénitra region (55.6%), followed by the Marrakech-Safi region (18.3%). This distribution is mainly explained by the fact that data collection was carried out in these two regions, where field surveys could be conducted directly with pharmacies.

However, the significant presence of respondents from rural areas (approximately 26%) underscores that the issue of opioid use extends beyond urban settings and also concerns less urbanized territories.

The analysis of professional experience levels shows that over half of the respondents (54.2%) have been practicing for less than five years, while 32.7% have between five and ten years of seniority, and 13.1% have been practicing for over ten years. This distribution reflects a predominantly young population, potentially more aware of contemporary medication safety issues, but also likely to encounter difficulties with complex situations requiring in-depth clinical expertise.

In parallel, the study highlights a significant relationship between professional experience and specific training on managing opioid-related risks. Indeed, over 88% of pharmacists with over five years of seniority report having benefited from dedicated training, compared to only 69.9% among professionals practicing for less than five years. This difference suggests that specialized training tends to be acquired with professional experience but also highlights a need to strengthen initial training for young pharmacists.

These results are consistent with literature data. A study by FIP (International Pharmaceutical Federation) showed that pharmacists' engagement in continuing professional development increases with seniority, with more experienced practitioners being more exposed to continuous professional development programs and more inclined to participate [4]. This trend is explained by a better perception of clinical issues, increased exposure to complex situations, and a

gradual awareness of the risks associated with dispensing certain medications, particularly those suggestive of abuse or dependence.

Furthermore, the analysis of professional status reveals that titular pharmacists and pharmacy assistants more frequently report having benefited from specific training (86.8% and 85.4% respectively) than final-year students (67.8%). This disparity reflects unequal exposure to complex clinical situations according to the level of responsibility but also highlights room for improvement in integrating opioid-related issues into university curricula.

These findings align with several international studies that emphasize professional experience and continuous training as major determinants of pharmacists' ability to identify at-risk behaviors, intervene appropriately, and adopt risk reduction strategies [5] [6].

In the Moroccan context, these results underscore the strategic importance of the pharmacist as a frontline actor in preventing misuse. The diversity of professional profiles and training levels observed in this study highlights the need to strengthen continuing education programs, harmonize professional practices, and support pharmacists in their role as guardians of proper opioid use.

4.3. Sociodemographic Profile of Users

Professionals predominantly describe a male patient population, although the proportion of women remains significant. This suggests a gradual evolution of user profiles, with increasing involvement of women in opioid consumption, particularly in therapeutic contexts.

Regarding age, pharmacists primarily report users aged 18 to 30 and 46 to 60, which highlights the existence of two distinct groups

Young adults, often associated with self-medication behaviors or non-strictly therapeutic uses;

Older patients, for whom consumption is more linked to chronic pathologies and prolonged medical management.

The socioeconomic distribution reported by professionals highlights a predominance of users from low-income backgrounds. This convergence suggests that socioeconomic precariousness is a significant vulnerability factor in opioid use, favoring both self-medication and lower adherence to therapeutic recommendations.

Results show that codeine remains the most frequently dispensed opioid in pharmacies, followed by tramadol, underscoring the central role of these molecules in current practices and explaining their strong involvement in observed misuse situations.

Despite their perceived relative safety, these substances are frequently associated with problematic behaviors, as shown by the misuse data reported by pharmacists. Indeed, 56.2% of professionals report observing misuse situations weekly, and 6.5% daily.

4.4. Awareness and Risk Management

In our study, awareness of opioid-related risks among pharmacy teams appears to be generally high. The majority of respondents report having received specific training on opioid management (79%). This level is encouraging because literature considers training a major determinant of the ability to detect misuse early, secure dispensing, educate patients, collaborate with prescribers, and implement risk reduction strategies. The FIP (International Pharmaceutical Federation) reiterates that pharmacists play a key role in reducing harm associated with substances (including opioids), and this requires a structured approach including skills, procedures, and collaboration [7].

However, this level of preparation contrasts with respondents' assessment of user awareness, which is judged mainly as average (59.1%) or low (33.1%), and rarely good (only 7.8%). This suggests that the risk is also driven by a normalization of use and insufficient understanding of the dangers (abuse, dependence, interactions). In this context, it is consistent to observe very frequent safety practices: almost all professionals report offering non-opioid alternatives (94.1%), and exposure to risk is regular since opioid dispensing on prescription is mostly weekly (69.3%), with misuse observation also being predominantly weekly (56.2%).

The reported difficulties confirm this management burden: the dominant challenges are abusive demands (47.7%) and managing suspicious prescriptions (43.8%), while the lack of protocols is cited in only 8.5% of cases, suggesting that

the problem is less the complete absence of rules than the complexity of real-life situations and the relationship with the user.

Statistical analysis does not show a significant relationship between patient type and the nature of difficulties encountered ($p = 0.108$). This lack of significance suggests that issues related to opioid dispensing are not specific to a given environment but rather stem from cross-cutting dynamics affecting all pharmacies, regardless of their practice context.

In terms of molecules, codeine is the most dispensed opioid (71.4%) and also the most requested for addiction purposes (65%), reinforcing the hypothesis of a possible normalization of an opioid perceived as "common" or less dangerous than major opioids.

These results align with data from a recent multicenter study conducted among community pharmacists in Saudi Arabia, which also highlights the central role of codeine in misuse behaviors in pharmacies. In this study (Alanazi et al., 2024) [8], the authors indicate that codeine-containing medications, available both by prescription and over-the-counter, are frequently associated with suspicious behaviors, such as repeated requests, larger quantities, or targeted search for a specific product, perceived by over 80% of surveyed pharmacists as signals of potential abuse or dependence.

4.5. This convergence is important for several reasons

Clinical perception of codeine misuse: As in our study, the Saudi survey shows that pharmacists identify codeine as a molecule with high misuse potential, despite its reputation as a "mild opioid." This perception reflects an internationally observed reality, where opioids perceived as less potent can nevertheless be diverted from their therapeutic use, particularly in contexts of direct access to pharmacies.

Role of the pharmacy as a privileged point of interaction: In both studies, pharmacists appear as key interceptors of risky behaviors related to codeine preparations. The Saudi study reports that active prevention strategies (refusal of sale, offering alternatives, dose reduction) are already used, reflecting our own observation of "addiction-seeking requests" specifically targeting codeine.

Normalization and self-treatment: Alanazi's study [8] notes that despite partial awareness of risks, a notable proportion of consumers do not fully perceive the addictive potential of codeine analgesics, favoring self-medication or repeated use. This pattern is consistent with our findings, where a high proportion of dependence requests specifically concerned codeine, suggesting that this molecule may be normalized by users as less problematic than other opioids.

Risk management is all the more crucial as 86.9% of professionals report having detected non-compliant prescriptions, and the most reported anomalies primarily concern clinically dangerous aspects (especially risky drug combinations), which explains why the most frequent action to limit errors is verification with the prescriber (77.2%).

These results are in line with dynamics already documented in pharmaceutical literature. A study conducted in the United States within a large national pharmacy service shows that pharmacists are regularly required to contact the prescriber when a prescription appears suspicious or insufficiently precise, in order to verify its legitimacy before dispensing. The authors emphasize that these contacts primarily concern situations where clinical or administrative information is incomplete, ambiguous, or inconsistent, potentially exposing the patient to medication risk if dispensing were carried out without prior verification [9].

Finally, one of the most striking results remains the frequency of non-medical requests: 82% of respondents report requests related to diversion for addiction purposes, and 94.2% report requests for self-medication, most often weekly (70%), placing pharmacies at the forefront of prevention and aligning with public health approaches that emphasize pragmatic risk reduction responses (education, identification, referral), alongside overdose prevention strategies and training for individuals likely to witness an overdose [10].

4.6. Impact of Opioids on Users and Pharmacies

The results of this study highlight a significant and multidimensional impact of opioid use, both on users and on the daily functioning of pharmacies. The data collected show that almost all surveyed professionals (94.8%) report having observed suspicious behaviors during the purchase or request of opioids, indicating almost constant exposure to potentially risky situations.

Insistence on obtaining a specific medication (66%), repeated visits without a valid prescription (19%), or the appearance of anxious signs or a deteriorated general state (15%) are classic warning signs described in the literature on addictive behaviors. These behavioral manifestations reflect not only pharmacological dependence but also psychosocial distress, placing pharmacy professionals in a delicate position between their care mission, regulatory responsibility, and therapeutic relationship.

Furthermore, the study highlights that opioid requests are very frequently associated with circumventing the medical framework. Indeed, 82% of pharmacists report requests related to diversion for addiction purposes, and 94.2% report facing self-medication requests, most often on a weekly basis. These results suggest a normalization of opioid use in the population, particularly for pain management, and confirm international observations that the perceived accessibility of certain opioids promotes their non-medical use.

Some users resort to medical consultation not for comprehensive therapeutic management but primarily to obtain a codeine prescription. Thus, the consultation becomes a means of accessing the medication rather than a space for in-depth clinical evaluation, and the doctor tends to be mobilized as an intermediary facilitating opioid acquisition rather than a central actor in therapeutic decision-making, which blurs the line between appropriate medical use and diverted use.

This observation aligns with international research describing "prescription-seeking" behaviors, where some patients specifically consult a doctor to obtain a prescription for addictive substances. McCabe and colleagues have shown that non-medical opioid use includes situations where medical consultation is used as a means of accessing the medication, independent of a clearly established therapeutic indication [11]. In this context, the prescription no longer necessarily reflects an objective clinical need but becomes a tool to legitimize opioid use.

Similar results are reported by Sansone and Sansone, who describe the phenomenon of "doctor shopping" and more broadly intentional prescription-seeking behaviors, characterized by consultations motivated by obtaining a medication rather than seeking a diagnosis or appropriate medical follow-up [12]. Although this behavior is often associated with consulting multiple practitioners, it can also manifest in a more discreet manner, involving a single general practitioner perceived as accessible or accommodating.

The impact of opioid addiction on pharmacy practice also appears to be significant. Over 70% of respondents believe that addiction complicates patient management and prescription handling, reflecting a considerable cognitive and organizational burden.

This difficulty aligns with findings from several studies showing that managing dependent patients requires increased vigilance, enhanced communication with prescribers, and the ability to handle sometimes conflictual or emotionally demanding situations. A significant proportion of professionals (19.6%) also state they do not have sufficient experience to judge this impact, highlighting a need to strengthen clinical and relational skills.

Regarding reported adverse effects, physical or psychological dependence constitutes the most frequently observed effect (42.1%), followed by drowsiness (23.4%) and constipation (18.1%). These results are consistent with literature data, which identify these effects as among the most common during prolonged opioid treatments.

The predominance of dependence-related manifestations once again underscores that the issue goes beyond simple pain management and is part of a broader public health dynamic, involving prevention, screening, and support.

In the face of these situations, the strategies adopted by pharmacists reflect a desire to secure care pathways. The majority prefer referral to the prescribing physician (78%) when an adverse effect or at-risk situation is identified, while direct therapeutic adjustment remains minor. This attitude demonstrates respect for the regulatory framework but also recognition of the doctor's central role in therapeutic re-evaluation. Nevertheless, it also highlights the limits of the pharmacist's decision-making autonomy in managing complex cases, especially when coordination resources are insufficient.

Finally, the difficulty in reconciling pain management and abuse prevention appears to be a major challenge: over half of respondents (51%) report experiencing difficulties in maintaining this balance, while only 7.2% believe they achieve it without difficulty. This tension is widely described in the literature, where the need to relieve pain coexists with the responsibility to limit the risks of addiction and misuse. It highlights the need for integrated approaches combining continuous training, decision-support tools, shared protocols, and better interprofessional coordination.

4.7. Involvement of Pharmacists in Managing Opioid Treatments

The results of this study show that pharmacists are primarily consulted for advice related to the risks associated with opioid use, with 60.8% of respondents reporting frequent inquiries on this subject. This predominance suggests that patients perceive the pharmacist as an accessible and credible source of information regarding the potential dangers associated with these medications, particularly concerning dependence, tolerance, or misuse. This finding aligns with observations from several international studies highlighting the central role of the pharmacist in therapeutic education and preventing risky opioid use [13] [3].

The significant proportion of consultations concerning adverse effect management (18.3%) also testifies to an important expectation from pharmacists in managing complications related to opioid treatments. These results are consistent with those reported by the International Pharmaceutical Federation (FIP), which emphasizes that pharmacists are often the first point of contact for adverse effects, due to their accessibility and the close relationship maintained with patients [14].

Conversely, only 17.6% of professionals report being consulted for advice related to gradual dose reduction or treatment cessation. This relatively low proportion may reflect patient reluctance to discuss withdrawal, often perceived as complex or anxiety-provoking, but also a persistence of a biomedical view focused on medical prescription rather than a shared approach to gradual risk reduction. This observation aligns with EMCDDA data, which indicates that gradual opioid reduction strategies remain insufficiently integrated into primary care practices [15].

Results show that the majority of professionals (75.2%) are rarely consulted by patients to report opioid-related adverse effects, while only 11.1% report being often or very frequently consulted on this subject. This low reporting frequency may be explained by the normalization of certain side effects, particularly drowsiness or constipation, often perceived by patients as expected and tolerable effects.

Furthermore, underreporting of adverse effects may also reflect a lack of patient awareness regarding the importance of reporting or a fear of questioning the prescribed treatment, such as treatment interruption or negative attitudes from healthcare professionals [16]. Psychological and social barriers, including the fear of losing access to effective treatment or the stigma associated with opioid use, also contribute to this reluctance to report adverse effects.

In this study, physical or psychological dependence appears to be the most frequently reported adverse effect (42.1%), highlighting a strong perception of the addictive risk associated with opioids. This data is consistent with international reports identifying dependence and opioid use disorders as major public health issues related to prolonged opioid use, particularly in chronic prescription contexts.

Dependence and opioid use disorders are recognized as significant concerns in global drug reports, with a substantial number of people affected by these disorders worldwide. Moreover, opioids remain one of the main classes involved in overdose-related deaths, underscoring the importance of dependence as a public health problem [17].

Results show that the most frequently adopted strategy by pharmacists is to refer the patient to the prescribing physician (78%). This predominance reflects professional caution and recognition of the limits of the pharmacy's scope of intervention in modifying opioid treatments.

It also reflects an approach focused on care coordination, recommended by several international organizations, including the World Health Organization (WHO) and the International Pharmaceutical Federation (FIP). Indeed, joint FIP/WHO guidelines explicitly encourage pharmacists to collaborate with other healthcare professionals to ensure continuity of care, establish standardized procedures for referring patients to physicians or other specialists as needed, and facilitate effective pharmacotherapy management in a multidisciplinary context [18].

However, only 12% of professionals mention dose adjustment and 10% suggest symptomatic treatment. This low proportion may reflect a lack of clear protocols or specific training enabling pharmacists to intervene more proactively in managing adverse effects, especially in contexts where rapid access to the prescribing physician is limited.

The data reveal that over half of the professionals (51%) experience difficulties in reconciling pain relief and abuse prevention, while 41.8% report achieving this with difficulty but thanks to the tools they have. Only a minority (7.2%) believes they achieve a satisfactory balance between these two objectives.

International literature highlights that healthcare professionals frequently face ethical and clinical dilemmas when they must reconcile analgesic efficacy, patient safety, and the prevention of misuse or dependence. This tension is particularly pronounced in long-term prescription contexts, where the assessment of therapeutic benefit must be continuously weighed against the risks of abuse, tolerance, and dependence [19] [20].

The most frequently reported obstacle by professionals is patient resistance to risk reduction strategies (72.1%). This resistance can be interpreted as a reflection of established dependence, a lack of risk perception, or a fear of insufficient pain control. These results align with those of several European studies emphasizing that patient adherence is one of the main determinants of the effectiveness of risk reduction strategies.

The lack of specific training, cited by 19.5% of respondents, also underscores the need to strengthen initial and continuing education programs for pharmacists on opioids. Conversely, the low percentage mentioning a lack of material resources (7.8%) suggests that the obstacles are more human and organizational than logistical.

Overall, these results highlight the central but complex role of the pharmacist in managing opioid treatments, underscoring the need to strengthen training strategies, clarify interprofessional responsibilities, and promote a patient-centered collaborative approach to optimize the safety and effectiveness of opioid treatments.

5. Conclusion

This study is part of an effort to deepen the understanding of opioid user profiles and the mechanisms influencing their consumption in the Moroccan context.

The analysis of data collected from healthcare professionals reveals the complexity of opioid use, situated at the interface between therapeutic need, inappropriate practices, and the risk of dependence. The results show that opioid consumption is often integrated into pathways marked by prolonged self-medication, a relative normalization of risks, and partial knowledge of the adverse effects associated with these molecules.

In this framework, the pharmacist's role appears decisive. As a frontline healthcare professional, they occupy a privileged position to identify at-risk situations, prevent misuse, and refer patients for appropriate medical management.

However, the results also highlight several limitations, including a lack of specific training, insufficient interprofessional coordination, and various organizational constraints hindering the pharmacist's full involvement in managing opioid treatments.

These observations underscore the need for a comprehensive and integrated approach to managing opioid users. This should involve strengthening healthcare professional training, improving monitoring systems, and structuring dispensing circuits more efficiently. Developing awareness strategies, more rigorous oversight of opioid access, and promoting close collaboration between physicians, pharmacists, and other health system actors are essential levers for reducing the risks of misuse and dependence.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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ANNEXES

Survey Questionnaire for Community Pharmacists on the Profile of Opioid Users

Section 1: General Information

1. What is your sex?

☐ Male

☐ Female

2. What is your professional status?

☐ Pharmacist

☐ 5th/6th year Pharmacy Student

☐ Pharmacy Assistant

3. How many years have you been practicing as a pharmacist?

☐ Less than 5 years

☐ 5–10 years

☐ More than 10 years

4. In which city do you practice?

5. What type of patient population primarily frequents your pharmacy?

☐ Urban

☐ Rural

☐ Mixed

Section 2: Socio-demographic Profile of Users.

6. On average, what is the age of opioid users you encounter in your pharmacy?

☐ Under 18 years old

☐ 18 to 30 years old

☐ 31 to 45 years old

☐ 46 to 60 years old

☐ Over 60 years old

7. What is the sex of the most frequent opioid users?

☐ Predominantly male

☐ Predominantly female

☐ Equal balance between the two

8. Which socioeconomic categories primarily represent opioid users?

☐ Low-income populations

☐ Middle-class populations

☐ High-income populations

9. Do opioid users primarily come from urban or rural areas?

☐ Urban

☐ Rural

Section 3: Awareness and Risk Management

10. Have you received training on managing risks associated with opioid use?

☐ Yes / ☐ No

11. How do you assess the level of user awareness regarding opioid abuse risks?

☐ Very good

☐ Good

☐ Average

☐ Low

12. Do you offer non-opioid alternatives for pain management in your practice?

☐ Yes / ☐ No

13. How often do you dispense opioids on prescription in your pharmacy?

☐ Daily

☐ A few times a week

☐ A few times a month

☐ Very rarely

14. What challenges do opioid users pose in your pharmacy?

☐ Management of suspicious prescriptions

☐ Dialogue with patients making abusive demands

☐ Lack of clear protocols for managing these situations

☐ Other (specify): _____

15. What types of opioids do you primarily dispense?

☐ Morphine-based medications

☐ Tramadol

☐ Codeine

☐ Other (specify): _____

16. Have you encountered non-compliant opioid prescriptions?

☐ Yes / ☐ No

17. How often do you observe cases of opioid misuse or abuse in your pharmacy?

☐ Daily

☐ Weekly

☐ Rarely

☐ Never

18. When an opioid prescription does not comply with recommended doses, what are the main anomalies you observe?

☐ Inappropriate dosage

☐ Dangerous combination with other medications

☐ Lack of precision regarding the patient's diagnosis

☐ Prescription renewal before the scheduled date without justification

☐ Other (specify): _____

19. What measures do you take to prevent prescription errors or excessive dispensing of opioids?

☐ Verification with the prescribing physician in case of doubt

☐ Limitation of the number of units dispensed

☐ Long-term prescription monitoring

☐ Other: _____

20. Do you receive requests for opioids related to diversion for addiction purposes?

☐ Yes / ☐ No

21. If yes, which molecule is primarily requested?

Section 4: Impact of Opioids on Users and Pharmacies

22. Have you ever observed suspicious behaviors related to the purchase or excessive demand for opioids?

☐ Yes / ☐ No

23. In such cases, how do you react?

☐ I contact the prescriber to verify the validity of the prescription

☐ I refuse to dispense the prescription and discuss it with the patient

☐ I report the incident to a competent authority (e.g., health authority)

☐ Other: _____

24. Have you noticed an increase in opioid requests in recent years?

☐ Yes, significant

☐ Yes, but moderate

☐ No

25. In your experience, what is the impact of opioid addiction on patient management?

☐ Addiction complicates patient management and prescription handling

☐ Addiction is a secondary problem compared to other aspects of patient management

☐ I do not have enough experience to judge

26. What are the most frequent signs of dependence?

☐ Frequent requests for early renewal

☐ Unjustified increase in dosage

☐ Irritability or anxiety during withdrawal

☐ Other: _____

27. What behaviors or signs do you observe in patients suspected of misuse?

☐ Insistence on obtaining a specific medication

☐ Frequent visits without a valid prescription

☐ Neglected appearance or anxiety

☐ Other (specify): _____

Section 5: Involvement of Pharmacists in Managing Opioid Treatments

28. Have you ever been asked to provide specific advice on:

☐ Risks related to opioids

☐ Management of side effects

☐ Gradual cessation or dose reduction

☐ Other; specify: _____

29. How often do patients consult you to report opioid-related adverse effects?

☐ Very frequently

☐ Often

☐ Rarely

☐ Never

30.What are the most frequently reported opioid adverse effects by your patients?

☐ Constipation

☐ Nausea / vomiting

☐ Drowsiness

☐ Mental confusion

☐ Physical or psychological dependence

☐ Other (specify): _____

31.What advice do you frequently give to manage opioid adverse effects?

☐ Dose adjustment

☐ Taking a laxative or anti-nausea medication

☐ Recommendation to consult the prescribing physician

☐ Other, specify: _____

32. Do you have difficulty maintaining a balance between managing patient pain and preventing abuse or dependence risks?

☐ Yes, it is difficult to reconcile the two

☐ Yes, but I manage with the tools at my disposal

☐ No, I find a good balance between the two

33. What is the main obstacle you encounter in implementing opioid risk reduction strategies?

☐ Lack of specific training

☐ Lack of resources or tools (guides, etc.)

☐ Patient resistance to following these strategies

☐ Other (specify): _____

Section 6: Risk Reduction Strategies and Access to Care

34. Does your pharmacy offer opioid risk reduction strategies?

☐ Yes / ☐ No

35. Have you encountered difficulties in accessing care for opioid users (e.g., lack of support, stigmatization)?

☐ Yes / ☐ No

36. How do you assess the role of the pharmacy in preventing opioid abuse when managing prescriptions?

☐ Very important

☐ Moderate, but we must be vigilant

☐ Not very important, it is primarily the responsibility of prescribers