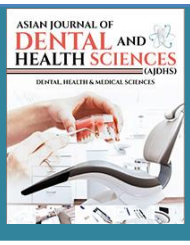

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Asian Journal of Dental and Health Sciences

Open Access to Dental and Medical Research

Open Access Review Article

The Role of Pharmacists in Opioid Addiction Management

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Article Info:

Article History:

Received 09 January 2024
Reviewed 17 February 2024
Accepted 01 March 2024
Published 15 March 2024

Cite this article as:

Dave P, The Role of Pharmacists in Opioid Addiction Management, Asian Journal of Dental and Health Sciences. 2024; 4(1):51-56

DOI: http://dx.doi.org/10.22270/ajdhs.v4i1.71

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Abstract

Opioid addiction claims thousands of lives every year in the United States. The prevalence of misuse, abuse, and overdose continues to rise despite the measures and initiatives taken by the federal government and other government agencies to manage the problem. These efforts have led to a re-evaluation of the role different healthcare providers can play to ensure the problem is adequately addressed. Being one of the most accessible healthcare providers to patients under opioid therapy, pharmacists are better positioned to deal with opioid addiction. They dispense millions of opioids every year making them better positioned to screen for patients who are likely to develop an addiction problem and refer them to treatment resources before the abuse escalates to opioid use disorder (OUD). The aim of this review is to explore the role of pharmacists in opioid addiction management including prevention, screening, education, naloxone prescribing, counselling, and referral to treatment resources. The review also provides pertinent information regarding the current state of the opioid crisis in the US, including recent data on prevalence and opioid-related deaths. Exploring the role of pharmacists is instrumental in coming up with effective measures that can help in opioid addiction management.

Keywords: opioids, opioid addiction management, pharmacists, opioid misuse, opioid abuse, opioid use disorder

Introduction

Opioids are crucial in the management of pain. Various studies have established that prescription opioids are instrumental in managing pain, particularly in the short term.[1, 2] However, despite their significance in the management of pain, prolonged use without medical supervision can increase the risk of dependence and lead to addiction. The recent 2022 data by National Survey on Drug Use and Health is an indication of the opioid problem in the US with 8.9 million people who are 12 years and older having misused opioids while another 6.1 million being diagnosed with OUD in the last year.[3] Managing opioid addiction is paramount considering the number of deaths attributed to opioid addiction. In the past two decades alone, opioid overdose deaths in the US have gone up significantly from around 21,089 in 2010 to approximately 70,000 in 2020.[4,5] In 2021, deaths linked to synthetic opioids other than methadone were approximately 70,601.[4] On average, 1 death in every 22 in the US in 2021 was attributed to opioid toxicity.[6] Of these deaths, the most affected are younger adults aged 25 to 34 years.[7] The early loss of life means years of loss of productivity. Abuse and misuse of opioids also increase health risks and complications which has a major toll on public health. In 2017 alone, the opioid epidemic cost the US $1.02 trillion, with approximately $35 billion being on healthcare and treatment.[8]

Considering the magnitude of opioid misuse, abuse, and OUD as exemplified by available population data, there is a need for measures to increase awareness of the risks associated with opioids and put proper addiction management strategies in place. An interdisciplinary approach to addiction management including involving different professionals in prescribing and managing opioid addictions can enhance clinical outcomes.[9] Pharmacists can be instrumental in addiction management because of their role in opioid dispensing and the training they have in medication safety and management.[10] This review explores the role of pharmacists in opioid addiction management including how they can help in harm reduction, prescription of naloxone for overdose treatment, and referral to addiction management resources.

Prevalence of Opioid Misuse, Abuse, and Deaths in the US

Recent data from the Substance Abuse and Mental Health Service Administration (SAMHSA), National Institute on Drug Abuse, and Centers for Disease Control and Prevention (CDC) show that opioid dependence and deaths are increasing in the US despite the reduction in the number of opioid prescribing.[3,4,11] The last two decades have recorded significant numbers of individuals affected by the opioid epidemic with the most being young adults.[7] According to the CDC, the number of opioids prescribed to patients increased significantly from the 1990s which corresponds to the rise in the number of overdoses and deaths.[12] Approximately, 280,000 people died from prescription-related opioids between 1999 and 2021.[12] In 1999, only 3,442 deaths were reported compared to 16, 416 deaths reported in 2021 which is an indication of the escalation in the number of deaths attributed to opioids.[4] Deaths related to other opioids other than prescription opioids also increased significantly during this period. The CDC reported approximately 645,000 deaths between 1999 to 2021 while another study reported 422 605 deaths between 2011 and 2021. [12,6]

In addition to deaths attributed to opioids, the number of people who misused or abused opioids also increased

significantly in the last two decades. In 2022, 8.9 million people who were 12 years and older misused opioids.[3] Among these, 1.1 million were aged 18 to 25 years while 7.4 million were adults aged 26 years and older. [3] Another 6.1 million people had OUD with adults aged 26 years and older accounting for 5.4 million while those aged 18 to 25 accounting for 424,000. [3]

The high number of people misusing, abusing, and dying from opioid-related deaths is attributed to several factors key among them being high-volume prescribing and ease of accessibility of the drugs. The number of opioid prescribing has gone up in the last two decades with 2012 recording a prescription rate of 81.3 per 100 persons.[13] Between 2013 to 2016, the US accounted for the largest per-capita consumption of opioids in the world.[14,15] Although opioids play a significant role in managing pain, a large number of patients prescribed opioids end up abusing or misusing them. A study by Vowles et al.[16]established that 21% to 29% of patients who were prescribed opioids ended up misusing them and another 8% to 12% developed OUD. Despite the decline in the rates of prescribing in recent years, the number of people dying from opioid-related deaths continues to rise showcasing a discrepancy between safe prescribing and opioid assess. The discrepancy could also mean that the number of people abusing other forms of opioids including heroin and synthetic opioids has increased. Considering the high rate of misuse and abuse associated with opioids, there is a need to identify individuals at risk of opioid addiction to ensure healthcare professionals are knowledgeable and can be able to intervene before the abuse turns to OUD.

Risk Factors for Opioid Misuse and Abuse

Identifying people who are at risk of opioid misuse or abuse is vital in fighting opioid addiction. Identifying these risks makes it possible to assess them and put measures in place to manage them effectively. Various factors increase the risk of opioid misuse and abuse including individual factors, demographic factors, pain-related factors, sociodemographic factors, psychosocial factors, drug-related factors, and factors related to alcohol and substance use disorders.[17] Although independently these factors are not likely to increase the risk of misuse, a combination of two or three increases the risk significantly.

Demographically, young, white, and non-urban American males are more likely to have a prescription opioid misuse and abuse problem compared to other population groups.[18, 17] However, this could be changing. The recent 2022 National Survey showed that rates of misuse were higher among multiracial groups at 4.5%, followed by Blacks at 4.1%, and Hispanics at 3.4%.[3] Whites had a misuse percentage of 3.0% while Asians were at 1.5%.[3] One of the factors why prescription opioid abuse is more associated with white men is because the rate of prescription for opioids in emergency departments and primary care practices is much higher.[19] Emotional issues and affective distress were also identified as factors that increased the risk of misuse and abuse with women who had these problems being more likely to misuse or abuse opioids.[17]

Socioeconomic factors also play a crucial role in determining if an individual is likely to have an opioid abuse problem. Individuals who do not have health insurance, are unemployed, have work-related accidents or disability, and those who do not graduate high school have a higher risk of abuse.[20,21]

One of the most consistent factors associated with the opioid abuse problem is a history of substance use disorders (SUD). Various studies have found that individuals who have a history of SUD are at a higher risk of opioid abuse.[22,23] Coincidentally, individuals who experience chronic pain have higher rates of SUDs.[17] According to a national epidemiologic survey, these rates are higher than those observed in the general population.[24] Considering the rates of SUDs are higher in individuals struggling with chronic pain, it leaves a dilemma on how patients who struggle with pain can be managed effectively using opioids without the risk of addiction.

Other risk factors that were associated with opioid misuse and abuse were mental health diagnoses including psychotic and anxiety disorders,[24, 22] pain severity,[17] genetic factors,[17] and geographical factors. With regard to geographical factors, a high number of opioid prescriptions were mostly concentrated in counties in the western and southern states.[25] Besides, hospitalizations related to opioid overdoses between 2000 to 2012 were also concentrated in the South region. [18] Controlling for risk factors associated with misuse and abuse is vital in opioid addiction management. For pharmacists, identifying these risk factors is vital in ensuring they are knowledgeable and can be able to intervene to manage opioid addictions.

Role of Pharmacists in Addressing the Opioids Epidemic

Addressing the opioid epidemic requires the involvement of different healthcare providers who are in contact with patients being prescribed opioids. In the US, involving community pharmacists in dealing with opioid addiction is instrumental considering they dispense approximately 131 million prescription opioids every year.[26] Besides, pharmacists are knowledgeable about the mechanism of action of medications and are in a better place to identify patients who are at risk of addiction. The CDC Clinical Practice Guideline for Prescribing Opioids for Pain recognizes the crucial role of pharmacists in opioid prescription, especially their role in opioid dispensing and naloxone prescribing.[27] Various studies highlight the importance of pharmacists in ensuring opioid safety including prevention, surveillance, and treatment of OUD.[28,29,30] With the help of Prescription Drug Monitoring Programs (PDMPs), pharmacists are better positioned to control prescriptions and identify patients who have a higher risk of opioid addiction.[31] The PDMP enables pharmacists to screen for opioid misuse and discuss opioid-related treatment with patients.[32] In addition to PDMP, pharmacists have access to naloxone which is instrumental in reversing opioid overdose. A study done in Canada established that pharmacists play a crucial role in the distribution of naloxone as part of the public health initiative in dealing with the opioid crisis.[33] Community pharmacies were accessible to patients and being a key point of naloxone distribution they were instrumental in preventing overdoses. Other than emergency treatment, pharmacists can play a crucial role in prevention, which is recognized as instrumental in preventing the likelihood of developing abuse or OUD.

Role of Pharmacists in Addiction Management

Pharmacists play a crucial role in opioid prescription which makes them better positioned to prevent misuse and abuse. Prevention is recognized as instrumental in dealing with substance use disorder and addiction management and can be used as an early intervention measure to deal with opioid addiction.[31] Prevention is recognized as instrumental in delaying both the onset and progression of substance use disorders which makes it instrumental in addiction management. Successful prevention of opioid addiction and abuse can involve a number of measures including addressing risk factors, screening, education, and discouraging use among other measures. Using models such as the Screening, Brief Intervention and Referral to Treatment (SBIRT) model as a guide to prevention can enable pharmacists to achieve optimal outcomes.[31] The model provides a comprehensive approach that allows healthcare providers to carry out screening, prevention, and timely referral to patients who have SUD.[34] The model is vital in the management of people with SUD including identifying those at risk of developing the problem. By using the

SBIRT model, pharmacists can be able to screen for people who have high OUD risk, initiate discussions about the problem, and provide interventions if necessary. Screening is recognized as an instrumental measure in preventing opioid use disorder, especially in clinical and community settings.[28] Using screening as an intervention measure for opioid addiction management has a lot of potential with some surveys showing that community pharmacists have a positive attitude towards screening and are interested in using screening to help patients that have OUD.[35,36] The SBIRT model also recommends brief intervention before referring patients for treatment. The main aim of the brief intervention is to explore an individual's motivation to change by increasing their insight and awareness about risks associated with substance abuse.[31] Pharmacists can play this role effectively considering they are knowledgeable about the risks associated with opioid abuse. They are also better positioned to give advice to patients on the negative effects of prolonged opioid use. Pharmacists are also better positioned to know patients who need a referral to treatment resources for OUD even though they cannot do the referral themselves.[30] They are more knowledgeable about outpatient treatment centers and can provide this information when necessary. The SBIRT model has been proven instrumental in screening, initiation of treatment, and referral of patients that have a substance use disorder but its efficacy is limited because results of clinical trials are mixed.[37,38] Despite these limitations, it has various areas of strength that can prove instrumental in addressing opioid use disorder. For instance, it is easy to use and adaptable meaning it can be applied in different healthcare settings.[31] Providing training to pharmacists on its proper use can ensure positive outcomes in opioid addiction prevention.

Education is an additional measure that is reported in the literature as being vital in addiction management. Various studies have found a positive correlation between education-related activities and positive outcomes when it comes to the prevention of opioid misuse and abuse.[39,40,10]. Pharmacists are better positioned to provide education to patients because of the important role they play in opioid dispensing. Different studies have noted improvements in patient outcomes following education-based interventions.[39,30]. In addition to providing education to patients, pharmacists can also be a valuable resource for training and educating healthcare providers who are involved in opioid addiction management.[10] Considering their knowledge in pharmacology, they are better placed to provide training and continuing education to other healthcare providers involved in opioid addiction management such as counsellors. Their role in providing training is documented in research, particularly on the proper use of naloxone for patients to law enforcers and other community members.[41,42]

Pharmacists also play a crucial role in addiction management through safe dispensing. Using PDMPs is recognised as one measure that can ensure safe opioid dispensing to prevent misuse or abuse. PDMP is a risk mitigation practice that is recognized as instrumental in the effective monitoring of opioid use by healthcare providers.[43] PDMPs ensure safe prescribing because they track how controlled substances are prescribed.[10] CDC recognises PDMPs as instrumental in ensuring safe prescribing because they provide healthcare providers with timely information about patients' prescriptions and behaviours that can contribute to misuse or abuse.[27] Having access to timely information and patients' history of prescription opioids can enable pharmacists to have targeted responses to prevent misuse or abuse. Considering that more than 50 states have operational PDMPs, then it is a critical avenue for timely opioid addiction management. Besides, it is recommended by the CDC Clinical Practice Guideline as a measure that can help to determine whether patients are receiving opioid doses that put them at higher risk of overdose. However, when using risk mitigation practices such as PDMP it is important to acknowledge the challenges that pharmacists may face especially when dealing with customers in a customer-service setting and put measures in place to minimize them to be able to achieve optimal outcomes.

An additional role that pharmacists can play in addiction management is providing medication-assisted treatment (MAT). MAT entails the use of the Food and Drug Administration (FDA) approved prescription medications to treat opioid addiction.[10] Examples of such medications include methadone, naltrexone, and buprenorphine.[44] The use of MAT in treating opioid addiction is proven in the literature. Different studies have established that the use of these medications is effective in reducing and treating opioid overdoses.[45,44] MAT helps to reduce illegal opioid use by reducing the craving for opioids and providing relief for individuals experiencing withdrawal syndrome. When used in treating opioid addiction, the medication has been shown to reduce the number of fatal overdoses.[10] Because of their role in opioid dispensing, pharmacists can provide MAT and support in substance abuse treatment centers.

Pharmacists can also deal with opioid addiction through the distribution of naloxone and opioid rescue kits. Naloxone plays an instrumental role in opioid overdose reversal and is recognised as an effective measure that can help in addressing the opioid epidemic.[31] The role of pharmacists in naloxone distribution is recognised in research. Community pharmacies are recognised as key distribution points for naloxone because of their accessibility to patients.[33] In addition to being key distribution points for naloxone, pharmacists are recognised as instrumental in providing education on their proper use to patients and support persons including law enforcement and members of the community.[31,10,41] Through effective naloxone distribution and dispensing, pharmacists can be able to deal with addiction management by preventing overdoses.

Other additional measures that can help pharmacists deal with opioid addiction include providing medication therapy management (MTM), counselling, and referral to addiction treatment resources. The main aim of MTM is to optimize patient outcomes especially when it comes to effective medication use.[46] This is done by identifying and addressing problems related to the prescribed drug problems such as misuse or mismanagement. Pharmacists are in a unique position to do MTM for opioids because of their role in dispensing. By using tools such as PDMP, pharmacists can know patients who are at risk of opioid misuse and abuse and intervene by either recommending medication review or suggesting measures that can help to address the misuse before it escalates. Providing counseling is also a measure that can help with opioid addiction management. Counseling is mainly done in addiction treatment and rehabilitation centers but pharmacists are in a unique position to provide counselling because of their unique role that allows them to be in contact with patients.[47,48,49] Providing counseling on the risks of overdose, for example, can ensure that patients are more knowledgeable on why overdosing is risky. Pharmacists can also address the safe disposal of opioids and safe storage.[50] Pharmacists are also uniquely positioned to provide referrals to addiction treatment resources. Because they often interact with patients, they are in a unique position to identify patients who may have undiagnosed OUD and provide referrals to addiction treatment resources.[28] Pharmacists are also in a better position to identify resources that are available to patients within the community making them vital in opioid addiction management.[50] Chisholm-Burns et al.,[10] also recognise that pharmacists could be instrumental in referring patients to MAT programs and making sure they adhere to treatment.

The following review contributes significantly to the existing research by identifying the role of pharmacists as instrumental in dealing with opioid addiction. It provides different interventions that pharmacists can engage in to prevent opioid misuse, abuse, and OUD. Identifying different ways in which pharmacists can help in dealing with opioid addiction management, cements their role as crucial in dealing with the opioid epidemic being experienced in the US. Though the role of pharmacists is recognised as instrumental, several barriers exist that may hinder the effective implementation of the interventions discussed above. For instance, pharmacists may not be better positioned to provide screening and counseling because of the limited duration of interaction with the patients. Pharmacists may also not be better positioned to provide medication-assisted treatment (MAT) because their role is limited to dispensing. However, considering the enormous potential that pharmacists possess in opioid addiction management, creating an enabling environment that can increase their readiness to provide the above-discussed interventions is paramount in the opioid epidemic. Providing education, training, and putting guidelines in place, for example, are some of the measures that can ensure pharmacists' readiness to reduce opioid misuse and abuse. Although this paper clearly outlines the role that pharmacists can play in opioid addiction management, it has its limitations. The scope of this paper mainly focuses on the role of pharmacists in the US which makes it challenging to generalize results to other regions and countries affected by the opioid epidemic. The paper is also limited by the fact that rigorous data extraction is not followed. The paper only includes articles that the author deems applicable to inform this research.

Conclusion

The US is still grappling with the opioid epidemic necessitating measures to manage addiction and prevent overdose deaths. Pharmacists are recognised as instrumental in opioid addiction management because of the crucial role they play in opioid dispensing and their direct involvement with patients. This is particularly the case for community pharmacists who are in a position to identify signs of misuse and provide interventions before patients reach the critical point of addiction. Pharmacists can provide various interventions including prevention, screening, education, overdose prevention through naloxone prescribing, counseling, and referral to treatment resources. Using models such as SBIRT can help pharmacists screen for patients who are at risk of addiction, provide brief interventions, and refer them to proper treatment resources. Using tools such as PDMP can ensure pharmacists have access to data on patients and are able to identify those who are at an increased risk of opioid misuse and abuse. Overall, implementing these measures can play a crucial role in helping to reverse the worrying statistics about opioid prevalence and morbidity.

Abbreviations

OUD: Opioid Use Disorder

SAMHSA: Substance Abuse and Mental Health Service Administration

CDC: Centers for Disease Control and Prevention

PDMP (s): Prescription Drug Monitoring Programs

MAT: Medication-assisted Treatment

FDA: Food and Drug Administration

SBIRT: Screening, Brief Intervention and Referral to Treatment

SUD: Substance Use Disorder

MTM: Medication Therapy Management

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