



**Case Report**

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# Opioid use Disorder for Prescription Opioid Medications



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## Case Report

Why are opioid medications prescribed in large quantities and high frequency when there is little or no proven efficacy for their therapeutic value? Why are opioids the most commonly prescribed medication in the United States for the past decades when the adverse consequences continue to grow and mount? Why does the medical profession continue to prescribe opioid medications that result in increased pain and increased disability? Specifically, why do physicians continue to prescribe opioid medications despite widespread psychiatric morbidity and mortality? Prescription opioid addiction with its loss of control over use is the short answer. Relative to programs to limit misuse and diversion of opioid medications, consideration of the risk of addiction in pain treatment has been muted. We have moved beyond questions of problematic use and diversion to focus on the role of opioids in causing addiction even when prescribed and used appropriately [1].

The inordinate and massive prescribing and use of opioid drugs in the United States reflects addictive use and does not correlate to the magnitude of pain conditions. The United States constitutes only 4.6% of the world population; however, it consumes 80% of the world's opioid supply and 99% of the world's hydrocodone supply. Retail sales that use opioid medications, including methadone, oxycodone, fentanyl-based hydromorphone, hydrocodone, morphine, meperidine, and codeine, have increased from a total of 50.7 million grams in 1997 to 126.5 mg in 2007[2].

This is an overall increase of 149% with increases ranging from 222% for morphine, 280% for hydrocodone, 319% for hydromorphone, and 525% for fentanyl-based, and 866% for hydrocodone to 1,029% for methadone. New surveys of opioid medications and mortality show a steadily rising rate of unintentional deaths due to prescription and therapeutic use of opioid medications. [2] The overall increase in opioid use reflects increased availability and therefore onset of addictive use in vulnerable populations, e.g. those who complain of pain.

## Disinterest in Addiction by the Medical Profession

Kissen performed an initial literature search of 2,356 articles within a 30-year period between 1983 and 2012. The literature search was reduced to 250 articles relevant to chronic nonmalignant pain and then to 53 original clinical research studies. Analysis showed that only 25 of these studies were randomized controlled studies and only one of these studies lasted three months or longer. Importantly, none of these studies had high-quality evidence for efficacy in long-term opioid treatment. Thus the analysis of these articles on chronic opioid therapy for nonmalignant pain demonstrated that there is insufficient high-quality evidence of its efficacy [3].

Inexplicably, the problem of opioid addiction in the treatment of chronic pain was discussed only in six articles and the problem with death associated with opioid treatment of chronic pain was discussed in only three articles. In 2013 there were a total of 16,235 deaths due to prescription analgesics and in 2010 there were 16,651 deaths due to opioid analgesics. Therefore, despite opioid medications being highly addicting and the major cause of death, addiction continues to be a neglected problem.

## Definition of Addiction

The core essential features of addictive behavior due to drugs is involuntary and reflects a loss of control over opioid use:

- a. Preoccupation with acquiring the drug, such as seeking drugs from a physician and seeking medical care. Patients frequently seek medical care to obtain drugs and have an extensive and elaborate rationalization for pain medications. Opioid addiction is perfect compliance in opioid treatment because of compulsive use. [4] Complaints of pain are linked to desire for opioid drug use, not pain conditions.
- b. Compulsive use is continued opioid use despite adverse consequences. These adverse consequences range from mild to significant and can be medical, legal, and occupational. In the case of opioid medications these adverse consequences

are increased and not decreased pain sensitivity, increased mortality not increased survival; increased disability not decreased disability, and significant psychiatric symptoms such as opioid-induced depression and anxiety [5].

c. A pattern of relapse or an inability to stop using opioids. Individuals who are addicted to opioid medications show a loss of control over the usage of the medications. They may abstain for a period of time and then resume opioid medication and re-experience the adverse consequences. Among the reasons for stopping opioid medications initially are adverse consequences, such as increased pain and disability, risk of overdose, and depression/anxiety. These symptoms often will improve with cessation and discontinuation of opioid medications only to return when the individual resumes use of these medications, due to opioid addiction

The reason for relapse often given is pain; however, when the pain level is measured off opioids, it is oftentimes less than when taking and resuming opioid medications.

### Studies of Addiction in Opioid Populations

Hydrocodone is far by the most prescribed drug in the country and extended and immediate release oxycodone is also widely and commonly prescribed. Among all medications, the prevalence rate for addictive use within the past year was highest for opioid pain medication, followed by stimulant medication, sedative or anxiety medication, and sleeping medication. [6, 7] Misuse and nonmedical use are often addictive use and occur in medical use and settings. Similarly, abuse and inappropriate use often mean addictive use in therapeutic and doctor patient relationships.

Many studies do not adequately define or diagnose addictive use, rather relying on terms such as abuse, nonmedical use or inappropriate use that reflect addictive use. The American pain and addiction societies identify four criteria for addiction: impaired control over drug use, compulsive use, continued use despite attempts to cease, and craving. Atluri and Sudarshan developed a tool to detect the risk of addictive use of prescription opioids in chronic pain patients. Six clinical criteria were identified to predict opioid addiction. Score is derived by counting number of positive criteria. A cutoff score of 3 and above predicts abuse: focus on opioids, opioid overuse, other substance addiction, low functional status, unclear etiology of pain, and exaggeration of pain [8].

### Primary Care Training

Opioid addiction is very prevalent among users but findings suggest that routine evaluation of risk for misuse of opioid analgesics occurs infrequently in a large family medicine training program. Potentially aberrant drug taking behaviors exhibited by patients using opioid for chronic pain syndromes in this sample were consistent with those reported in other similar settings.

Policies and procedures in primary care settings for improved risk evaluation and ongoing monitoring were suggested [9].

Key indicators of opioid misuse that should be screened for by healthcare providers include interpersonal problems, arrest history, multiple opioid use, use for no identifiable reason, and comorbid other substance misuse to improve accuracy in identifying misuse. Individuals who received an opioid dependence diagnosis within two years of filling a prescription, compared to those who did not receive such a diagnosis, were more likely to be male, younger, have a prescription history of more opioids and more days supply of opioids, have prescriptions filled at more pharmacies, have greater rates of psychiatric disorders, utilize more medical and psychiatric services, and be prescribed more concomitant medications [10].

### Risk of Opioid Addiction

Just giving an individual a prescription for an opioid pain reliever will triple their risk of developing an opioid use disorder. If someone is placed on chronic, low-dose opioid therapy, their risk for developing opioid use disorder is 15 times greater. If they are prescribing high-dose chronic opioid therapy, their opioid use disorder risk is 122 times greater than those not on opioids [11].

Beauvoir and colleagues performed an observational study of ED patients discharged with a prescription of opioids. Participants aged 18-55 completed a baseline survey in the ED, then 3 and 30 days later answering questions about opioid use and misuse. If patients self-escalated their dose, obtained additional prescription opioids without a prescription or used opioids for a reason besides pain they were classified as misuses. Those who did not exhibit those behaviors were classified as nonissues. Out of 85 patients, 46 (42%) reported misuse at either 3 or 30 days, while 58% did not self-report misuse.

Importantly, there was no difference in demographic variables, pain scores, analgesic treatment, or discharge diagnoses between misuses and nonissues. Self-escalation of dose (loss of control) was the most common category of misuse, occurring in 92% of those surveyed. Taking prescription opioids without a doctor's prescription was reported by 39% and taking pain medications for reasons other than pain was reported by 36%. These behavioral criteria for misuse are associated with DSM V criterion for addictive use. Additional factors associated with misuse and addiction included the presence of disability, chronic pain, preexisting opioid use, oxycodone use, and past 12-month risk of substance use and addiction [12].

### Opioid tolerance and dependence

Tolerance and dependence are often associated with chronic repetitive use of opioid medications, although they are separate phenomena from addiction and are reasons for prescribing escalated opioid doses. There are different areas of the brain responsible for addiction from tolerance and dependence. In

short term prescribing, tolerance and dependence can occur independently of addiction. But because opioids are highly addicting, when opioid medications are used regularly, tolerance, dependence and addiction occur together. It is a practice for a physician who prescribes opioids acutely for only several days, such as in a postoperative setting, to taper for the opioid medications to avoid withdrawal symptoms for opioids that develop within days of prescribing. The individual may not seek opioid medications after discontinuation which would indicate that addiction is not present; however, when the individual seeks medications and resists discontinuation when the withdrawal is treated, the reason likely is addiction. Although pain complaints may be given as rationalization for being prescribed opioids, the underlying pathological explanations for the pain are absent

Tolerance is the adaptation of the central nervous system to partial effects of opioid drugs. Tolerance is the loss of effect of a particular drug and develops to multiple effects at a particular constant dose of the medication and the need to increase a particular dose of medication to résumé or continue a particular effect. Tolerance develops differently to various intoxicating effects and develops at different rates, such as papillary mitosis shows no tolerance, but moderate tolerance develops to constipation, analgesia and sedation, and tolerance develops rapidly to euphoria [13].

There are different types of tolerance. Innate tolerance is where an individual has a genetic predisposition to a particular type and level of tolerance. Acquired tolerance commonly occurs with continued use of the opioid medication [14]. Pharmacokinetic tolerance develops to disposition of opioid drugs due to increased elimination and metabolism of opioids, such as stimulation of liver enzymes. Pharmacodynamic tolerance is an adaptation of the receptors and in the case of opioid alternate receptors, new kappa and delta to the particular effect of the opioid.

Dependence is basically withdrawal symptoms from the discontinuation of the presence of opioid drugs. The central nervous system has reached a particular homeostasis via tolerance and adaptation to the presence of the drug and when the drug is withdrawn the body de-adapts to the absence of the opioid medication in the form of withdrawal symptoms. The discontinuation of opioids is manifested by withdrawal symptoms that occur predictably in time and character from opioid medications.

### Opioid intoxication and withdrawal

Opioid intoxication and withdrawal are often similar and equal to clinical complaints that prompt opioid prescribing e.g., musculoskeletal pain, dysphasia, and agitation. Distinguishing between original pain complaints can be challenging unless opioid intoxication and withdrawal are properly identified as the source of complaints [15]. Opioid intoxication is defined as a clinically significant problematic behavior or psychological change, such

as initial euphoria followed by apathy, dysphoria, psychomotor agitation, retardation, or impaired judgement. These behaviors develop during or shortly after opioid use. At most any doses of opioid medications, depending on the individual, the given dose will generate these effects [16].

Other obvious behavioral manifestations from opioid intoxication are drowsiness, slurred speech, and impairment in attention or memory. They are observable and measurable when looked for and not rationalized to other causes. These symptoms occur in individuals who are taking therapeutic doses of opioid medications and tolerance does not develop completely to these effects. Tolerance is a partial adaptation to this presence of opioid intoxication. Opioid withdrawal occurs on the cessation of opioid use. Opioid use does not necessarily have to be heavy and prolonged, but the higher the dose and the longer the use of the opioid drugs, the more likely and severe withdrawal. Signs and symptoms of opioid withdrawal are often complaints used to justify opioid prescribing. These withdrawal symptoms include: dysphonic mood, nausea and vomiting, muscle aches, joint pains, lacrimation, papillary dilatation, piloerection, diarrhea, yawning, fever, insomnia, and anxiety [10]. What is important to note is individuals who use opioids on a regular basis daily and use prescription opioid medications two to four times a day experience some degree of withdrawal even during the days the drug is being taken as prescribed. The half-life of opioids is short and within a few hours individuals experience withdrawal symptoms from the last dose. Withdrawal is a motivating factor in continuous opioid use; however, it does not explain why someone would return to opioid use and re-experience adverse consequences after a prolonged period of abstinence such as addictive use [17].

### Causes of opioid addiction

Opioids are inherently pharmacologically addictive. According to the controlled substance laws, opioid medications are classified as schedule II and III drugs which are defined as highly addicting and highly dangerous [18]. The controlled substance laws were passed and opioid medications were scheduled because they have legitimate medical purposes and therapeutic value. However, opioid medications were also scheduled according to their high addiction potential and risk for adverse consequences such as fatal overdoses [19]. Schedule I is the highest addiction potential and schedule V is the lowest addiction potential. The intent of the controlled substance laws was to assure their prescribing and use should be highly monitored and opioids should be prescribed by knowledgeable and skilled physicians to utilize their therapeutic value and minimize their dangerous effects. Potency assays reveal that oxycodone is roughly equipotent to or slightly more potent than hydrocodone [20]. Hydromorphone was only modestly more potent than either hydrocodone or oxycodone. These findings suggest that the addiction liability profile and relative potency of hydrocodone, oxycodone and hydromorphone do not differ

substantially and that analgesic potencies may not accurately reflect differences in addiction liability of prescription opioids.

### **Availability contributes to addiction**

Because opioids are the most commonly prescribed medication in the United States they are highly available. [21] Availability is an important factor in the development of addiction. If a drug is highly addictive and highly available, addiction is much more likely to occur as the mounting number of prescriptions can be found in the us.

### **Vulnerability to addiction**

Vulnerability is an important factor in development of opioids addiction. Genetics do play a role in who is more vulnerable to develop opioid addiction; however, that vulnerability is difficult to assess and determine and identify in clinical situations [22,23]. One common indicator is the concurrent use of other addicting medications such as benzodiazepine and stimulant medications with opioid medications.

### **Environmental Factors**

Environmental factors are extremely important in initiating or limiting the onset of opioid addiction. Seeking medical care is the most common reason that individuals become addicted to opioid medications in the United States. Multiple studies show the most potent risk factor for the development of opioid addiction is prescribing opioid medications by a physician. Specifically, a study by Wright suggests that access to healthcare generally, and to dentists and pharmacists in particular, increases the availability of prescription opioids in communities, which, in turn, is associated with higher rates of opioid addiction [24].

Denial of problematic use or adverse consequences from opioid medications is common in opioid addiction. Often the harmful effects from opioids are minimized and rationalized or misattributed to pain rather than opioid addiction by the patient and physician. Those addicted to opioid medications show intense fear of pain at the prospects of discontinuation of opioids. The fear is a manifestation of addiction and reassurance that pain will improve off opioids is not sufficient to overcome fear at times.

### **The Neurobiology of Opioid Dependence: Implications For Treatment**

Brain abnormalities from chronic opioid use are underlying causes of opioid dependence and addiction. The abnormalities that produce addiction are wide ranging, complex and long lasting. They may involve interaction of environmental effects (stress, social context of initial opiate use) and psychological conditioning and a genetic predisposition in the form of brain pathways that were abnormal even before the first dose of opioids was taken. Such abnormalities can produce craving that leads to relapse months or years after the individual is no longer opioid dependent [25].

### **Drive States And Loss Of Control**

Opioids attach to mu opioid receptors; receptor activation triggers the same biochemical brain processes that reinforce people with pleasure when they engage in activities that promote basic life functions like sex and eating. Opioids are prescribed to relieve pain but when they activate these instinctive processes in the absence of significant pain, they can motivate repeated use of the drug simply to satisfy basic drive states. [26]. Opioids activate the mesolimbic reward system. This system generates signals in the ventral tegmental area that results in the release of dopamine the nucleus accumbens, this causes activation of drive states. Brain areas create a lasting record that associates reinforced instinctual drive states with the circumstances in which they occur. These recordings/memories/conditioned associations often lead to cravings for drugs when the user reencounters those persons, places or things and they drive the addicted to seek out more drugs despite obstacles and aversive consequences [27].

Reinforced use derived from opioids' activation of brains neural reward systems promotes continued drug use during initial and sustaining stages of opioid addiction despite onset and accrual of adverse consequences. Subsequently, repeated exposure to opioid drugs induces the brain mechanisms of dependence, which leads to daily drug use to avert the unpleasant symptoms of drug withdrawal. Further prolonged use produces more long lasting changes in the brain that may underlie the compulsive drug seeking behavior and related adverse consequences that are the hallmarks of addiction [28].

### **Dopamine Activation**

The "changed set point" model of addiction is based on the altered neurobiology of DA neurons in the VTA and of the norepinephrine of the locus coeruleus during the early phases of withdrawal and abstinence. The basic idea- drug alters physiological setting or baseline. Neurons in the mesolimbic reward pathways are naturally set to release enough DA in the Mac to produce normal levels of pleasure. This model suggests that opioids cause addiction by initiating a vicious cycle of changing this set point such that the release of DA is reduced when normal drive states occur and opioids are not present.

During periods when the drug is not available to addicts, their brains can unconsciously remember the drug, and drive or craving for the drug can be a major factor leading to drug use relapse. This craving may represent increased activity of cortical excitatory glutamate neurotransmitters which drive activity of Da containing VTA neurons and drive the norepinephrine neurons in the locus coeruleus. As the glutamate activity increases, DA is released from the VTA leading to drug craving and norepinephrine will be released from the locus coeruleus leading to increased withdrawal symptoms.

Opioid dependence and addiction are most appropriately understood as chronic medical disorders, like hypertension,

schizophrenia, and diabetes. As with other diseases, a cure for drug addiction is unlikely and frequent recurrences can be expected; but long term treatment can limit the disease's adverse effects, promote abstinence and improve the patients day to day functioning [29]. The mesolimbic reward system appears to be central to the development of the direct clinical consequences of chronic opioid addiction, including tolerance, dependence and addiction.

### Opioid use Disorder

#### a. Dsm-5 Opioid Use and addictive Disorder

The criteria contained in the DSM-5 require a problematic pattern of opioid use leading to clinically significant impairment or distress as manifested by at least two of the following occurring within a 12-month period [16]. Pervasive to these criteria for addiction is a loss of control and drive to use opioid medications despite adverse consequences.

I. Opioids are often taken in larger amounts or over a longer period than was intended. Chronic prescribing beyond a few days can be considered a longer period than is intended for these medications to be prescribed because of their highly addiction potential. Dr. Thomas Frieden, Director for the Center for Disease Control, recommends not prescribing these medications beyond three days because of their highly addicting nature [30]. It is not unusual within a therapeutic setting that these medications are continued for the "treatment of pain" extensively when, in fact, the patient has developed an addiction to these medications. The addiction is a preoccupation with acquiring the opioid medications and its continued use that leads to use far beyond what was intended by the patient or the physician. The rationale being used is continued pain, but the opioid use is linked to the drug use and not to the pain source, and use continues despite increasing pain. Often in addictive use, the pain complaint is not explained pathologically adequately.

II. There is a persistent desire or unsuccessful effort to cut down and control opioid use. This criterion is clearly evident when the physician or the patient desire to reduce or discontinue the medication. There is a natural resistance because of the development of addiction to discontinue or control opioid use despite adverse consequences. These adverse consequences are manifested in increased pain through opioid-induced hyperalgesia, opioid-induced depression, disability and psychiatric complications consistent with major depressive disorder, and risk of harm, driving while taking these medications or the risk of overdose which is present when using these medications, particularly if they are combined with tranquilizers such as benzodiazepines or other respiratory depressants [31]. Due to opioid addiction, the physician may continue prescribing the medication against their better judgement and the patient may continue to request or demand these

medications despite awareness of their lack of efficacy and risk of harm [16-32].

III. A great deal of time is evident in the patient seeking frequent and regular medical care pursuing treatment for a pain condition that is not responding to chronic opioid medications and where chronic opioid medications are increasing the pain, depression and anxiety. A great deal of time is spent in activities necessary to obtain opioids in seeking medical care and to recover from its effects, such as opioid intoxication and withdrawal. It is a mistake to assume that someone is not addicted to opioid medications if they use as prescribed by a physician. Compulsive addictive use is continued use despite adverse consequences e.g. pain, depression. It is not unusual for the patient to request and the physician to acquiesce to increasing doses and continued prescribing of opioid medications within the therapeutic setting. Thus, within a "therapeutic setting" individuals can obtain more and larger doses of opioid medications without having to go outside the treatment setting. Also, not all physicians monitor the patient's acquisition of opioid medications outside the therapeutic setting. Unfortunately, physicians often neglect assessing for tolerance, dependence, and addiction that commonly occur within so-called therapeutic doses and therapeutic relationships.

IV. Craving or strong desire to use opioids. These DSM-5 criteria begin to overlap; however, drug-seeking is the premiere sign of craving or strong desire to use opioids. Obtaining and use of the opioid medication becomes the focal point of treatment where alternative treatments are no longer considered or wanted and opioid medications are the only drug or treatment that can alleviate the pain despite continued high levels of pain according to the patient. It is not unusual for a patient to continue to request and demand opioid medications when their pain level is 8 to 9 out of 10, where 10 is the worst pain they can have. Any other medication treatments associated with such poor outcomes would be discontinued but for opioid addiction.

V. Recurrent opioid use resulting in failure to fulfill major role obligations at work, school, or home. These criteria are obvious in the high degree of disability that occurs and is associated with chronic opioid use. A study of disabled Medicare beneficiaries under the age of 65 showed that there is an overall rise in prescription opioid medications. In 2011, in a study population of 1,367,688 Medicare beneficiaries, 46.2% or 631,872 people used opioids (had at least one prescription filled within the year.) Notably, 24.9% of opioid users filled 6 or more prescriptions in a year. The author stated that the effectiveness of a sustained and high dose opioid use is supported by scant evidence in this study. [33] Also, opioid induced depression and anxiety and impaired cognition on individuals are interfering and impairing with

their performance at school, work and their interpersonal relationships is severely impaired and disabled [34].

VI. Continued use despite having persistent or recurrent social interpersonal problems caused or exacerbated by the effects of opioids. Most individuals who use and are prescribed opioid medications chronically experience effects of opioid addiction, intoxication and withdrawal on a daily and continuous basis [35]. Also, the persistent addictive drive to use opioids interferes with social interpersonal relationships and continued use of opioids causes persistent interference with recurrent social interpersonal relationships. The patients' behavioral interactions are narrowed and social repertoire is severely limited due to the effects of chronic opioid use on mood, cognition, insight and judgement.

VII. Important social, occupational, or recreational activities are given up or reduced because of opioid use. Often patients use their pain to justify the reduction or cessation of these activities yet it is unlikely that pain is that limiting or severe. This can be demonstrated by discontinuing the opioid medications and observing the improvement in social, occupational, and recreational activity. Overwhelming and persistent complaints of pain become a rationalization and an explanation for many limitations that the individuals develop that are due to the opioid addiction, intoxication and withdrawal from opioid medication.

VIII. Recurrent opioid use in situations in which it is physically hazardous. In general, use of opioid medication impairs insight, judgment, coordination, physical and psychiatric reactions, cognition, and mood, and renders the individual at risk for harm in any situation, particularly those physically and psychologically hazardous. Opioid medications adversely affect coordination, reactions, perception, and judgement at almost any dose, despite development of tolerance.

IX. Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids. Fear of persistent or worsened pain is often expressed though not justified by the pathology of the pain source or adverse consequences from opioids or more effective, alternative treatments for pain. If an individual is experiencing recurrent depression, anxiety, or pain (hyperalgesia) with continued opioid use, the most likely cause is addiction, intoxication or withdrawal from the opioid use. If the medication has been prescribed chronically, medical judgement can often ascertain whether the underlying cause of pain complaint or condition would explain the adverse consequences and the degree of physical or psychological impairment. [36] Often a physical or psychological source of pain does not explain the magnitude of the complaints and discontinuing the opioid medication will result in improvement of pain and mood.

Recurrent and continued use of the opioid medication despite knowledge of the individual experiential improvement off opioids is another important sign of the addictive use [16-37].

### Physician Role and Education in Opioid Use Disorders

#### Physician is Source of Opioid Medication

A survey showed that little change has occurred in increasing curricular coverage of alcohol and drug related disorders. The survey revealed that curriculum deans affirmed the general lack of medical education about addictive diseases to prepare physicians to treat these patients. An overwhelming 96% of responding curriculum deans reported that an integrated curriculum in drug and alcohol disorders would be at the least, somewhat helpful. Fourteen percent said it would be very helpful, 41% said helpful and 5% said it would not be helpful [38].

Physicians play a major role in the cause and perpetuation of opioid use disorders. Physicians are the most common source of opioid medications through their prescribing in clinical settings and nonmedical use. [39] Source of opioid for illicit use of opioids can be traced back to a "legitimate" physician prescriptions for opioid medications. Unfortunately, physicians are not experienced or trained in prescribing addicting medications, including opioid medications.

The American Academy of Family Practice objects to the DEA requiring physicians to learn about controlled substances and their uses and risk. The reason often given is that educating the physicians about addiction in opioid medications will discourage their prescribing and patients will not receive the pain control that they may require. AFP published in *Managing Pain: Dispelling the Myth that Opioid Addiction is a myth if prescribing opioids for pain*. AFP does not explain how prescribing for pain overcomes the addicting properties of opioid medications [40]. However, on a careful evidence-based review of the efficacy and the addiction potential of these drugs, that position has little or no support and is a dangerous and fatal political position. Based on the evidence, these are not efficacious medications to prescribe in the long-term and addiction is a major limiting factor in their lack of efficacy and their eventual large scale prescribing and use and adverse consequences [41].

Often primary care physicians are not competent to prescribe opioid medications and do not feel competent to treat alcohol- and drug-related disorders. Yet primary care physicians continue to prescribe addictive medications such as opioids and benzodiazepines more commonly than other physicians and are the largest source of these medications. Physicians generally do not like to work with patients with these addictive disorders. Despite large numbers of such patients, the diagnosis and treatment of alcohol- and drug-related disorders are generally considered peripheral to medical matters. It is evidenced that

physicians fail to identify and treat a large percentage of patients with these addiction disorders.

## Education Is Critical

It is essential that faculty development programs in medical schools for addictive disorders are developed to overcome the stigma, poor attitudes, and deficient skills among physicians who provide education and leadership for medical students and residents. Medical students and physicians can also be patients with addiction problems. Their attitudes and abilities to learn about alcohol- and drug-related disorders are impaired without interventions. Curricula lack sufficient instruction and experiences in addiction medicine throughout all years of medical education. Programs that have successfully changed students' attitudes and skills for treatment of addicted patients continue to be exceptional and limited in focus rather than the general practice in US medical schools [42-43].

## Conclusion

For most chronic pain patients, the analgesic efficacy of long-term opioids is limited. Chronic exposure to opioids often results in opioid misuse, addiction, and risk of overdose. As such, non-opioid treatment options are needed [44]. Among individuals with a new chronic no cancer pain episode, prescription opioid exposure was a risk factor for incident opioid use disorders; magnitudes of effects were large. Duration of opioid therapy was more important than daily dose in determining opioid use disorder risk. [8] Addictive use opioid medications is common cause of lack of efficacy and adverse consequences from chronic prescribing of opioid medications for pain complaints.

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