Opioid Prescription by Primary Health Care: Indications, Adverse Events, and Toxicity Management

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Abstract

Opioids were used in the medical field for the treatment of pain. Primary health care providers prescribe opioids for chronic non-cancer pain such as arthritis, back, abdominal and neuropathic pain and fibromyalgia. The fear of the common opioids side effects–mainly addiction–raised the concerns for the safety of opioids compared to its potency in pain blocking compared to other analgesics. Knowledge of opioids consequences and high-risk groups associated with their adverse events is essential among primary care providers.

Keywords: Opioids; Primary Care; Indications

Introduction

Opioids are used before written history. Since their discovery around 3400 B.C. by the Sumerians, they have been used in the medical field for the treatment of pain [1]. Over the last two decades, there was a noticeable increase in prescribed opioids especially for chronic non-cancer pain patients [2-6], which is accordingly accompanied by an increase in opioid-related mortality and morbidity [3]. The estimated cost of prescribed opioids misuse is considered to be $8.6 billion [7]. In the United States, 15 million people misused prescription opioids in 2013 [8]. During the period between “1999 - 2010”, death caused by prescribed opioids overdose quadrupled. Interestingly most of these deaths were unintentional and only one in five was of undetermined intend [6]. The misuse of opioids is defined as using them...
in a way other than how they were prescribed [9]. This includes forged prescription, non-medical use and using illicit market places for administration, which could be for different reasons including increasing income, treating pain and enhancing pleasure. Such attitudes have increased the rates of opioids addiction significantly [10-12]. According to the Centers for Disease Control and Prevention (CDC) and the US Department of Health and Human Services (HHS), the overdose deaths caused by prescribed opioids are considered an epidemic [6]. The increase in mortality associated with increased prescribed opioids has been also reported in several countries including the United Kingdom (UK), Australia and Canada [3-5].

Primary care physicians are the largest opioid prescribers in the United States [13,14]. This withstands that pain is the most common complaint of primary care patients with 22% of them reporting persistent pain [15,16]. There’s an increasing number of governmental policies organizing and monitoring opioids prescription [17-20]. In the United States, primary care units are working with the American Academy of Pain Medicine (AAPM), the American Pain Society (APS), and the Centers for Disease Control and Prevention guidelines to implement policies that enhance opioid safety [17,21,22]. Therefore, we aimed to review opioid indication, side effects, and management which will help primary care physicians for selecting appropriate opioids according to patients needs.

Methods

We conducted an electronic database search for suitable studies till July 2019 in five databases including Google Scholar, Scopus, Web of Science (ISI), PubMed, and Medline. A manual search of references was done to detect any possible related papers. We included all studies reporting opioid prescription in primary health care setting with no restriction on language or year of publication.

Indications

Opioids exert their action through different mechanisms by blocking the transmission of pain impulses through inhibition of neurotransmitters and adenylate cyclase in addition to pre and post-synaptic hyperpolarization through increasing outward movement of potassium (K⁺) [23]. The prescription of opioids by primary health care physician varies according to pain intensity, type of pain and ethnic disparities [24]. Moreover, several factors alternate with increasing the dose for each patient that differs based upon the presence of comorbidity, increasing pain intensity and adjuvant therapy hindering opioids action [25]. Administration of opioids in primary health care unit is due to various physiologic and pathologic types of pain. In a cross-sectional study, opioids were used for several types of pain originates from trauma, non-arthritic and arthritic joints, abdomen, back pain in addition to rheumatic and neuropathic pain [26]. Moreover, in a population-based study in the USA, opioids administration from primary health care unit was due to osteoarthritis, rheumatoid arthritis, fibromyalgia, sciatica, neuropathic pain, spine pain, and lumbago [24]. In the same context, Chelminski., et al. [27] indicated that the use of opioids from primary health care unit stems from different types of pain such as spinal, abdominal, neuropathic and arthritic pain. Furthermore, diabetic neuropathy, headache, spinal stenosis, and post-surgical pain were the common etiologies for opioid intake by patients [28].

Adverse events

Although prescription of opioids showed a massive improvement in chronic pain management, the raised concerns of the increased opioids side effects through the past decade have influenced the treatment safety and efficacy among patients. Among all side effects, opioids’ addiction comprises the most dangerous and lethal side effect associated with opioids treatment. Moreover, the euphoric sensation after opioid intake may increase the need for larger doses and the patient may target illegal users for more satisfaction [29,30]. Not only opioids’ addiction is responsible for significant mortality but also associated with an increase in emergency department visits and neonatal abstinence syndrome [31,32]. Furthermore, opioids usage correlated with high degrees of psychiatric disabilities. In a cohort study conducted by Kobus and colleagues, higher doses of opioids use is associated with an increased incidence of depression, anxiety, and post-traumatic stress disorders compared to lower opioids dose and controls [33]. Moreover, patients allocated to opioids possess an altered sleep pattern rather than the placebo group [34]. In addition, gastrointestinal tract (GIT) symptoms such as nausea, skin rash, decreasing appetite, correlated with opioids intake [26].

Toxicity management

The dangerous consequences associated with opioids use indicated the need for new strategies for limiting the fatal side effects. Prevention of physicians’ malpractice of opioids prescription and detecting patients at high risk of opioids complications offers a fundamental role in the management of the opioids’ misuse. The increasing knowledge from the primary care physician about etiologies for opioids prescription, doses, and common side effects plays a substantial role in the management of opioid’s toxicity. Furthermore, if the diagnosis is still unknown, primary health care providers should refer the patient to specialists where adequate care can be obtained and prevent the non-beneficial prescription of opioids treatment [35]. Cautious opioids treatment, limiting the use as a first-line treatment, assessing the levels of individual drug metabolism in addition to the existence of caregiver in home can be considered as a potential strategy for opioids’ use in older patients [36]. Moreover, community-based programs elicit a favorable effect towards increasing the patients’ awareness and knowledge for opioids side effects associated with increasing the dose, which results in a reduction in the incidence of opioids’ addiction among individuals. Despite increasing the awareness for the patient and the primary health care physician for reducing opioids side effects, treatment modalities constitute a corner in management of opioids’ toxicity. Patients identified with chronic opioids use must be treated with one of opioids antagonists. Several studies have tested the safety and efficacy of the opioids antagonist such as buprenorphine administrated by chronic opioid addicts [37-39]. Moreover, emergency department initiated-buprenorphine is associated with more adherence to addiction treatment at two months rather than referral or brief intervention groups; however the results were not statistically significant at 6 and 12 months. This indicates the favorable effect of rapid emergency treatment of addicts with buprenorphine as a good therapeutic agent for short term outcomes [38].

Conclusion

Opioids’ prescription by primary care providers is indicated in chronic non-cancer pain; however, identifying patients at risk of opioids complications is essential for decreasing the negative consequences associated with opioids use such as addiction.

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None.

Conflict of Interest

None.

Bibliography


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