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THE RECENT ADVANCES IN THE MANAGEMENT OF CHRONIC PAIN IN FAMILY PRACTICE

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Abstract:

Introduction: *Chronic pain is considered to be one of the commonly encountered conditions in primary care that is considered significantly challenging in most patients. Pain is considered to be a complex psychological sensation which could be defined, based in the International Association for the Study of Pain, as the presence of a sensory experience and an emotional experience that are unpleasant and related to the presence of tissue injury (which can be actual or potential) According to the currently used version of the International Classification of Diseases, chronic pain is not recognized as a distinct separate diagnosis. Based on this, more studies are still needed to come up with the ideal management and treatment protocols for patients who have chronic pain along with other chronic conditions.*

Aim of work: *In this review, we will discuss the recent advances in the management of chronic pain in family practice.*

Methodology: *We did a systematic search for the recent advances in the management of chronic pain in family practice using PubMed search engine (http://www.ncbi.nlm.nih.gov/) and Google Scholar search engine (https://scholar.google.com). All relevant studies were retrieved and discussed. We only included full articles.*

Conclusions: *Chronic pain is considered among the most common causes of presentation to the primary care, and is known to severely affect the quality of life of patients. Therefore, general practitioners must be efficiently able to assess and manage patients with chronic pain.*

Treatment of chronic pain can be either pharmacological or non-pharmacological. The choice of treatment depends mainly on the type of pain, the etiology, the intensity, the duration of pain, and the presence of other comorbidities in the patient. Patients must be aware that it is rare for chronic pain to completely resolve.

Key words: *chronic pain, family medicine, primary care, management.*

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INTRODUCTION:

Chronic pain is considered to be one of the commonly encountered conditions in primary care that is considered significantly challenging in most patients. Pain is considered to be a complex psychological sensation which could be defined, based in the International Association for the Study of Pain, as the presence of a sensory experience and an emotional experience that are unpleasant and related to the presence of tissue injury (which can be actual or potential) [1]. The International Association for the Study of Pain also defines chronic pain being pain that continues for a period of time that is longer than the usual normal time needed for healing of tissues in a healthy individual.

Most scientist and physicians suggest that acute pain will become chronic pain if it persists for a period that is longer than twelve weeks. Significant differences are present between the management and treatment of acute pain and the management and treatment of chronic pain. Acute pain management plan depends mainly on the diagnosing, assessment, and treatment of the underlying etiology that is causing the pain. On the other hand, chronic pain management plans us usually based on decreasing the pain, reducing its negative effects on the functionality of patients, and improving the quality of life.

According to the currently used version of the International Classification of Diseases, chronic pain is not recognized as a distinct separate diagnosis. However, many propose that the next version of this classification should include a distinct code to diagnose chronic pain, making chronic pain a separate entity of diseases rather than a result of other diseases [2].

The prevalence of chronic pain can widely differ among different populations and according to the criteria of diagnosing chronic pain. In previous studies, the prevalence of chronic pain ranged between eight and forty-five percent of the population, with about fifteen percent of those seeking medical advice for this pain [3]. Studies have found that the risk of developing chronic pain increases with age. Reports estimate that more than one hundred million Americans have suffered from chronic pain at least once during their lifetime, with about twenty-five million of them reported this chronic pain to be continuous everyday [4]. These large numbers of patients lead to significantly high management costs that can reach more than six hundred billion dollars per year [5]. Therefore, chronic pain is considered to be one of the most important issues in public health.

Pain medicine is relatively new subspecialties that have recently become independent. However, the presence of pain managing organizations is still lacking and deficient, needing further developments and improvements [5]. Many claim that most pain management systems around the world are not sufficiently developing to meet the populations' needs, leading to gradual decrease in the quality of life of patients with chronic pain.

To achieve proper satisfactory pain control and management, chronic pain must be addressed in primary care. This can potentially provide good solutions for many patients, as primary care is easily available for most individuals. However, pain specialists should always be present to properly manage and plan the treatment, as patients with chronic pain will most likely have to be set on chronic management treatment plans.

In their report on the current status of the management of chronic pain in the United States, Dubois et al reached their conclusion that chronic pain management is still not satisfactory enough, with being inconsistent and not readily and equally available for all individuals over the nation. Moreover, a disparity between racial and ethnic groups regarding availability of pain management is widely present. They concluded that only half of the patients who have chronic pain are being managed and treated effectively in primary health care centers, while the others are either not receiving treatment, or receiving treatment from specialist pain physicians [4]. In summary, they recommended plans to increase the number of patients whose pain is managed by primary care centers, in order to provide consistent and equal pain care to all patients from all subpopulations.

According to the statement released by the Institute of Medicine, achieving satisfactory results in the management and treatment of chronic pain, will also need raising the cultural awareness and cognition of pain understanding, assessment, and treatment among both physicians and patients [6].

The importance of chronic pain comes from its effects on the personal aspect, the psychological aspect, the social aspect, and the economic aspects. In Europe, a previous report has concluded that the average duration for individuals suffer from chronic time is about seven years, with one year of these suffering from severe pain making them wish they

were dead [7]. Moreover, a survey among these patients showed that over half of them were unable to continue their everyday activities and more than one-fourth of them lost their relationships with the surrounding people because of their chronic pain [7].

Another study ha concluded that chronic pain patients have high vulnerability to develop major depressive disorder, which developed in about 21% patients. More than half of these patients lost their ability to work, because of both the pain and depression, which resulted in worsening of the depressive symptoms [8].

Despite all these severe consequences of chronic pain, less than half of patients are sufficiently managed and treated. This failure of delivery of proper management of pain can potentially lead to significant increases in rates of morbidity and mortality [9], especially with the increasing rates of major depressive disorder which have been found in an increasing number of chronic pain patients [10].

Cardiovascular complications have also been found to be associated with chronic pain, and risk increased with longer duration of pain. Moreover, previous studies have found that chronic pain is the most common condition that is present in patients who have other chronic diseases, and more than 85% of chronic pain patients have a diagnosis of another chronic co-morbidity. The high incidence and prevalence of chronic pain among patients with already diagnosed chronic diseases make it even more challenging to properly manage and treat chronic pain, while keep following the guidelines for the treatment of their other comorbidities and avoiding drugs interactions [11].

Based on this, more studies are still needed to come up with the ideal management and treatment protocols for patients who have chronic pain along with other chronic conditions. The target of these protocols must be achieving the best health status with maintaining functionality and quality of life of the patient and decreasing the rates of developing late complications and morbidities [12]. Success in achieving this will ultimately decrease mortality rates among these patients and improve their quality of life [13].

In this review, we will discuss the most recent evidence regarding the recent advances in the management of chronic pain in family practice.

METHODOLOGY:

We did a systematic search for the recent advances in the management of chronic pain in family practice using PubMed search engine (http://www.ncbi.nlm.nih.gov/) and Google Scholar search engine (https://scholar.google.com). All relevant studies were retrieved and discussed. We only included full articles.

The terms used in the search were: chronic pain, family medicine, management, and primary care.

Identification of Chronic Pain in Primary Care

When dealing with a patient with chronic pain the setting of primary care, the first goal is to determine the cause of the pain, and whether a treatable (or modifiable) etiology is present. If the cause is determined, the next step will be to directly address the cause and treat it. In cases where the cause of pain cannot be determined, or cannot be treated (nor modified), management will depend on supportive therapy that aims at decreasing the rates of pain, reducing the risk of developing adverse events, and prolonging the lifetime of the patient with the best achievable quality of life. Supportive therapy can be either pharmacological or non-pharmacological interventions.

Providing ideal assessment and treatment of patients with chronic pain can many times be difficult, especially in the primary care settings, due to the complicated nature of pain especially when it is accompanies with other chronic co-morbidities [14]. During the primary assessment of the pain, the physician must ask about the duration, characteristics, and severity of the pain [15].

Screening Tools and Brief Interventions

Detailed clinical and physical examinations are essential for properly assessing any patient with chronic pain. However, some screening tools can be used primarily to detect patients who have chronic pain or its associated complication. For example, the STaRT Back screening tool was first used in the primary care centers in the UK to help clinicians while assessing the risk of patients developing chronic back pain following attacks of acute back pain [16]. This screening tool has 9 questions that ask about risk factors which have been found to be associated with the development of chronic pain. Based on this tool, patients will be categorized into having high, intermediate, or low risk of progressing into chronic back pain, and their management will be planned accordingly.

Other tools like the LANSS tool, the DN4 tool, and the NPQ tool can also be useful while assessing the presence of neuropathic etiologies of the pain, which can significantly alter management plans [17]. It is also important to use tools that assess patients with chronic pain for the presence of associated psychological disorders like major depressive disorder [18].

Research is still ongoing in this area to develop better screening tools that can be easily used by physicians in the primary care settings.

Management of Chronic Pain in Primary Care

When dealing with any patient with chronic pain, providing continuous re-assessment of the case is essential at every encounter with the patient. This is done to make sure that treatment plan is effective and leading to satisfactory results, and prevent stopping effective treatment plans. This is important because the early cessation of treatment could be associated with pain recurrence. In addition, poor choice of drugs, poor compliance to treatment, and poor estimation of drug dose are all associated with poor outcomes.

Poor compliance can sometime result from the late onset of the drug's action, which can make patients thinks that they are not effective in curing the pain. Therefore, patients should be educated about this, and be told that drugs may have late onset, and that compliance is essential to achieve best treatment outcomes.

Management of patients with chronic pain is generally integration between both non-pharmacological interventions, and pharmacological-interventions. The decision of treatment plan is made on a case bases as it generally depends on the characteristics, onset, duration, and cause of pain, along with the presence of other comorbidities. Moreover, the treatment plan should be thoroughly explained to patients and discussed with them before the initiation of treatment, as this is associated with significantly higher success rates. Treatment plan of chronic pain is usually associated successful when it achieves at least a 30% reduction in the intensity of pain, and an improvement in the patients' quality of life [19]. However, patients should be aware that complete resolution of pain rarely occurs.

Drug Interventions

Breivik et al conducted a large study on patients with chronic pain and found that about half of these patients were receiving analgesics without prescription for their pain. These analgesics included nonsteroidal anti-inflammatory drugs (in more than half of the patients), acetaminophen (in about 40% of the patients), and opioids (in about 13% of the patients). The remaining patients were receiving prescriptions for their pain, and drugs included nonsteroidal anti-inflammatory drugs (in about 40% of patients), opioids (in about 20% of the patients), acetaminophen (in less than 20% of the patients), inhibitors of COX-2 (about third of the patients), and strong opioids (in less than 5% of the patients).

Acetaminophen is considered to be one of the common drugs to be prescribed for long-term treatment as it is associated with accepted efficacy along with a relatively good safety profile [20]. The choice of analgesic depends also on the mechanism of pain, as neuropathic pain and nociceptive pain can each respond to a different pharmacological agent. Some cases are attributed to both kinds of pain making it necessary to administrate several analgesics [21].

In cases of purely neuropathic pain, treatment could be started with the regular administration of acetaminophen. More severe cases can benefit from TCAs, gabapentin, and pregabalin. The use of topical analgesics can sometimes be beneficial in the management of neuropathic pain, and is generally used when other lines of treatment are insufficient and contraindicated. Tramadol can be prescribed for more severe cases. However, it is not recommended to prescribe morphine for patients with chronic pain unless thorough assessment has been conducted by a pain specialist [22]. Therefore, severe neuropathic chronic pain is considered an indication for referral from primary care to secondary care.

On the other hand, management and treatment of purely nociceptive pain can be different than neuropathic pain. Generally, treatment starts with acetaminophen which can be followed by nonsteroidal anti-inflammatory drugs with appropriate doses and given that the patient does not have a contraindication. When initiating a nonsteroidal anti-inflammatory drug, the physician must take into consideration the age of the patient, and the presence of asthma, renal failure, and gastrointestinal bleeding. Many studies have reported that some patients are being prescribed nonsteroidal anti-inflammatory drugs despite having contraindications, which has led to increasing rates of complications following treatment [23]. Some cases can benefit from the use of topical nonsteroidal anti-inflammatory drugs, like ibuprofen gel, which is

considered safer than oral ibuprofen. However, current guidelines do not recommend its use for the treatment of chronic back pain [24].

The use of opioids has been increasing in patients with severe chronic pain. However, when opioids are used, patients must be strictly monitored and observed to prevent the development of drug dependence. In addition, opioids should not be prescribed within primary care, and patients must initially be referred to secondary care for further evaluation and assessment. Despite their increasing rates of use, no solid evidence is present to support the long-term use of opioids for the treatment of chronic pain. On the other hand, their risks on the long-term are well-known and include drowsiness, fatigue, chronic constipation, respiratory failure, and death in severe toxicity. Dependence and abuse are also considered major drawbacks for the long-term use of opioids.

Non-Drug or Complex Interventions

Many cases with chronic pain can benefit from the use of non-pharmacological interventions, which are generally safer, and can be associated with similar efficacy sometimes. Non-pharmacological management of pain has many forms including psychological therapies, massages, physical therapy, and acupuncture. Many pain management programs have been applying cognitive behavioral therapy as a non-pharmacological intervention for the management of chronic pain. A recent trial has found that the use of cognitive behavioral therapy in chronic pain patients for one year led to decreased intensity of pain, improved psychological status and improved mood, and better quality of life [25]. Acceptance and commitment therapy has been recently emerging as another non-pharmacological option for the management of chronic pain, and has been found to lead to effects that are similar to cognitive behavioral therapy [26].

The term 'self-management' was previously introduced to describe activities that improved the functionality of the patients, decreased the intensity of chronic pain, and improved mood, by targeting cognitive, emotional, and behavioral ways in which the body responses to pain [27]. These techniques have been found by several studies to be effective when used along with other interventions to treat chronic pain.

Physiotherapy practice can also have benefits for the treatment of chronic pain that originates from the musculoskeletal system, as it has been found to improve both the intensity of pain and the functionality of the patient. In a recent meta-analysis of previously published trials on patients with chronic pain, the use of physiotherapy showed significant efficacy in improving the pain especially when it was associated with motivational therapy [28].

CONCLUSIONS:

Chronic pain is considered among the most common causes of presentation to the primary care, and is known to severely affect the quality of life of patients. Therefore, general practitioners must be efficiently able to assess and manage patients with chronic pain. Generally, pain is considered chronic when it persists for more than twelve weeks without improvement, and chronic pain treatment protocols usually focus on decreasing the intensity of pain, and improving the quality of life, rather than treating the underlying etiology of pain. Proper assessment and treatment of chronic pain is crucial as chronic pain has been found to be associated with severe long-term complications and mortality. Moreover, it has been linked with significantly higher rates of developing major depressive disorder. Despite its importance, most recent reports have found that the management of chronic pain is still not satisfactory in many places around the world. Therefore, more studies should address this issue to increase the awareness of primary care physicians toward the importance of chronic pain proper treatment. Treatment of chronic pain can be either pharmacological or non-pharmacological. The choice of treatment depends mainly on the type of pain, the etiology, the intensity, the duration of pain, and the presence of other comorbidities in the patient. Patients must be aware that it is rare for chronic pain to completely resolve.

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