Abstract

Objective. The objective of this project was to develop core competencies for education on opioids and addiction to be used in all Pennsylvania medical schools.

Methods. The Pennsylvania Physician General created a task force that was responsible for the creation of the core competencies. A literature review was completed, and a survey of graduating medical students was conducted. The task force then developed, reviewed, and approved the core competencies.

Results. The competencies were grouped into nine domains: understanding core aspects of addiction; patient screening for substance use disorder; proper referral for specialty evaluation and treatment of substance use disorder; proper patient assessment when treating pain; proper use of multimodal treatment options when treating acute pain; proper use of opioids for the treatment of acute pain (after consideration of alternatives); the role of opioids in the treatment of chronic noncancer pain; patient risk assessment related to the use of opioids to treat chronic noncancer pain, including the assessment for substance use disorder or increased risk for aberrant drug-related behavior; and the process for patient education, initiation of treatment, careful patient monitoring, and discontinuation of therapy when using opioids to treat chronic noncancer pain. Specific competencies were developed for each domain.

Conclusions. These competencies will be incorporated into the educational process at all Pennsylvania medical schools. It is hoped that these curriculum changes will improve student knowledge and attitudes in these areas, thus improving patient outcomes.

Key Words. Addiction; Pain Management; Chronic Opioids; Clinical Competence; Curriculum; Medical School Education

Introduction

The use of opioids has become a common treatment option for chronic pain. Opioids are being used to treat a variety of chronic pain conditions in spite of limited evidence of safety and long-term efficacy in the general patient population. As the use of prescription opioids has increased over the last several years, prescription drug abuse has increased [1]. It has been reported that 6.5 million Americans abused or misused prescription drugs in 2013. The United States Centers for Disease Control and Prevention reported that 47,055 people died in 2014 from drug overdose and that 61% of these deaths (28,647) involved some type of opioid, including heroin [2].

Opioid prescribing that is not in conformance with best practices has been identified in a variety of clinical settings and when opioids are used for a variety of clinical conditions [1,3,4]. Recently, concern has been raised that opioid prescribing decisions related to the treatment of acute pain may have significant impact on the risk for...
chronic opioid use or the subsequent development of opioid use disorder [3, 5]. Improper prescribing of opioids likely is associated with an increased risk of serious adverse events, including death [2].

Pennsylvania has experienced a significant increase in the rate of drug overdose deaths from 2013 to 2015, and it has been estimated that up to 10 people a day die in Pennsylvania from drug overdose. In response to this public health emergency, the state of Pennsylvania created the Safe and Effective Prescribing Practices Task Force in 2014. Subsequently, the Pennsylvania Physician General formed a task force to create core competencies for education on opioids and addiction that would be integrated into the curriculum of all Pennsylvania medical schools.

Methods

The Pennsylvania Physician General created a task force consisting of representatives of all the Pennsylvania allopathic and osteopathic medical schools, as well as representatives of selected state and federal governmental agencies (Appendix). Through a series of discussions, the task force agreed that prescription drug abuse and the increase in drug overdose deaths in Pennsylvania were growing public health concerns. The task force agreed that it appeared that one step in addressing this issue was to improve physician knowledge and attitudes related to these topics. To facilitate efforts at improving physician education on pain, opioids, and addiction, the task force decided to develop state-wide core competencies to guide efforts to improve educational efforts at individual medical schools.

Core competencies were developed through an iterative process. A literature review was completed, and relevant material was made available to the task force. Draft core competencies were developed, reviewed, and revised, then approved by the task force.

Results

Core Competencies

Core competencies were grouped into nine domains (Table 1). The domains are: understanding core aspects of addiction; patient screening for substance use disorder; proper referral for specialty evaluation and treatment of substance use disorder; proper patient assessment when treating pain; proper use of multimodal treatment options when treating acute pain; proper use of opioids for the treatment of acute pain (after consideration of alternatives); the role of opioids in the treatment of chronic noncancer pain; patient risk assessment related to the use of opioids to treat chronic noncancer pain, including the assessment for substance use disorder or increased risk for aberrant drug-related behavior; and the process for patient education, initiation of treatment, careful patient monitoring, and discontinuation of therapy when using opioids to treat chronic noncancer pain. Specific competencies were developed for each domain.

1. Understanding core aspects of addiction

   a. Describe what a substance use disorder is, including the concept that a substance use disorder may exist along a spectrum from mild to severe substance use disorder.
   b. Describe the criteria used to diagnose an opioid use disorder.
   c. Report the difference between opioid use disorder, physical dependence, and tolerance.
   d. Summarize the precipitants and factors that interfere with successful treatment of substance use disorder.
   e. Identify and discuss the impact that concurrent mental health disorders and social history can have on successful referral and treatment for substance use disorders.
   f. Identify the common medical conditions that are associated with chronic substance use disorder, which may include infection (including sexually transmitted infections), HIV, hepatitis, cancer, and cardiovascular disease.
   g. Describe the impact that substance use disorder can have on chronic health conditions, including diabetes, oral health, and infection.

2. Patient screening for substance use disorder

   a. Describe options for how to properly screen patients for substance use disorder.
   b. Explain the role that patient screening tools can play in patient assessment for substance use disorder.

3. Proper referral for specialty evaluation and treatment of substance use disorder

   a. Summarize the importance of proper patient referral for substance use disorder.
   b. Explain the importance of treating the patient with dignity, respect, and a nonjudgmental manner when discussing substance use disorders.
   c. Describe how to discuss the diagnosis of substance use disorder with a patient, including methods for effective referral of a patient for treatment of substance use disorder.
   d. Identify and implement the “warm handoff” referral process for patients with substance use disorder.

4. Proper patient assessment when treating pain

   a. Demonstrate how to conduct a pain-focused history and physical examination to determine the cause(s) of the patient’s pain.
   b. Explain the importance of patient assessment, including the value and limitations of patient-reported pain intensity.
   c. Describe the importance of assessment of mood, sleep, and physical functioning in the evaluation of a patient with chronic pain.
d. Summarize the risk factors associated with increased risk of harm associated with opioid therapy in both the hospital and outpatient setting.

5. Proper use of multimodal treatment options when treating acute pain
a. Defend the statement that both acute and chronic pain can be best treated using a multimodal treatment that may include the use of regional anesthetic techniques, nonopioid analgesics, self-management techniques, and physical therapy.

6. Proper use of opioids for the treatment of acute pain (after consideration of alternatives)
   a. Summarize opioid pharmacology, including:
      i. choice of opioid, route of administration (PO vs IV),
      ii. use of short-acting vs long-acting drugs,
      iii. the factors that place the patient at increased risk of harm when opioids are used to treat acute pain, and
      iv. identifying steps that can be taken to avoid patient harm.

b. Describe how acute opioid prescribing decisions can directly impact the risk for long-term use, including nonmedical use and development of substance use disorder. Summarize what steps can be taken to minimize the risk of patient harm.

c. Describe proper opioid formulation selection (including short-acting vs long-acting formulations, as well as when an abuse-deterrent formulation may be indicated) and drug dosing when using opioids to treat acute pain.

7. The role of opioids in the treatment of chronic noncancer pain
   a. Report on the factors that increase the risk of patient harm, as well as the factors that decrease the chances of improved patient outcomes.
   b. Describe what concurrent medications or medical conditions increase the risk of patient harm.
   c. Discuss the indications for prescribing naloxone for home use to treat opioid overdose.

8. Patient risk assessment related to the use of opioids to treat chronic noncancer pain, including the
assessment for substance use disorder or increased risk for aberrant drug-related behavior

a. Discuss the role that screening tools might play in identifying patients at increased risk for harm.
b. Describe the key patient attributes that may increase the risk of aberrant drug-related behaviors or substance use disorder.

9. The process for patient education, initiation of treatment, careful patient monitoring, and discontinuation of therapy when using opioids to treat chronic noncancer pain

a. Summarize proper methods for patient education related to proper medication storage and disposal.
b. Defend the role for opioid treatment agreements.
c. Describe the role that shared decision-making can play when considering chronic opioid therapy, including the possible role that family members can play, especially in younger patients.
d. Review the role of urine drug screens and review of data contained in the prescription drug database(s).
e. Describe the value associated with establishing treatment goals and how treatment goals can be documented and monitored throughout treatment.

Discussion

Physicians and other health care providers have limited knowledge regarding the diagnosis and treatment of chronic pain conditions. Additionally, physicians and other health care providers have limited knowledge regarding the proper use of opioids for the treatment of noncancer pain. It has been reported that US medical schools provide on average 11.1 hours of education on pain management (range = 1-31 hours) [6]. Medical students have reported that pain is a topic of major concern early in their clinical experience and that a large majority of the medical students’ interactions with patients with pain were viewed as negative [7].

Similar or more significant knowledge gaps exist regarding the screening of patients for possible substance use disorder, as well as how to properly refer patients suspected of having substance use disorder for specialty evaluation and treatment. Most medical schools provide little to no education on these topics, and these knowledge gaps do not appear to be effectively addressed during residency [8]. However, it is important to note that efforts are underway to improve physician knowledge in this area, most notably the creation of core competencies for pain management [9], as well as the medical education collaborative effort based in Massachusetts [10].

Physician education on pain and addiction can improve subject matter knowledge. Several institutions have reported on their efforts to improve pain and addiction education. These efforts have included the implementation of a four-day concentrated course, as well as efforts to integrate education on these topics into clinical rotations [8,11,12]. Improved understanding of key topics related to pain and addiction has been documented following these interventions.

The development of a set of core competencies alone will not improve physician knowledge and attitudes. Rather, competencies can be used to guide the development and implementation of innovative curriculum changes by individual medical schools. There is significant pressure for multiple topics and competencies to be addressed during medical training, and while the time allocated for medical education is not increasing, the list of topics and issues to be discussed seems to continually grow. A single lecture or even a series of lectures on a specific topic may not have significant impact on student knowledge or attitudes. Therefore, the challenge will be to integrate new educational requirements into the existing process of medical student education in such a way that the competencies do not compete with ongoing educational efforts, but rather compliment them.

The Pennsylvania legislature recently passed Senate Bill 1368, which was signed into law on November 2, 2016. This legislation requires that the state boards of Medicine, Osteopathic Medicine, Nursing, Optometry, and Podiatry create a safe opioid prescribing curriculum to be offered in colleges or by providers approved by the licensing boards. The curriculum must include information on current age-appropriate pain management, alternative treatments for chronic pain to minimize the use of a controlled substance, safe opioid prescribing, the screening of patients for substance use disorder, and the management of substance use disorder as a chronic disease. This legislative endorsement of education in pain, proper use of opioids, and addiction screening and treatment will likely accelerate adoption of these core competencies into medical student education.

The state government of Pennsylvania is implementing a process for Pennsylvania medical schools to share their efforts to implement these new competencies so that all schools may have the opportunity to learn from the efforts of other educators. Likewise, we hope that this education effort during medical school can be enhanced and reinforced through additional learning during residency training. Ultimately, the goal of this effort is to improve the lives of the people we serve through improved pain therapy, proper opioid prescribing, effective screening of patients for substance use disorder, and proper referral for treatment of patients identified with substance use disorders.

References


Appendix

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