



Pain Management and Assessment



speeding vehicle has the potential to cause injury and even death if it were to hit a person. Due to Child 1's perception and conscious awareness, which are based on learned and stored information, Child 1 has a biological and psychological reaction to the sensation and experience of a speeding vehicle traveling through an intersection. One day Child 1 has a friend, Child 2, over to play. Child 2 lives in a house which is very isolated. There is little to no vehicle traffic near or around Child 2's house. Child 2 often plays near the road without ever seeing or hearing a vehicle speeding. Child 2 grows up with very little fear of street traffic or busy intersections. Upon arriving at Child 1's house, Child 2 requests to go outside and play catch with a ball. Child 1 likes to play catch, so Child 1 and Child 2 proceed to go outside and play catch, which inevitably leads them near the street. Eventually, Child 2 misses the ball and the ball rolls into the street and towards the busy intersection. Child 2 immediately runs into the street after the ball. However, Child 1 makes no movements towards the street or the rolling ball. As Child 2 approaches the intersection, Child 1 hears and perceives a speeding vehicle. Child 1 immediately tenses up and feels anxious. Child 2 is not in tune to the sounds of the speeding vehicle and is unaware of the impending danger. Therefore, Child 2 proceeds towards the intersection. Just as Child 2 gets closer to the intersection, Child 1 emphatically yells at Child 2 to get out of the street. Child 2 hears Child 1 yelling and proceeds to quickly get out of the street. The ball rolls through the intersection and gets hit by the speeding vehicle. Child 1 and Child 2 are not injured in any way. In the previous example, Child 2 had not learned significant information regarding speeding vehicles and the potential of harm prior to playing with Child 1. Therefore, Child 2 did not have enough relevant information stored in the consciousness to react appropriately or safely when the ball rolled into the street. As a result, Child 2 ran into the street and towards the intersection without regard for safety. On the other hand, Child 1 had learned about the danger of speeding vehicles. The relevant information regarding speeding vehicles and the potential for harm, was stored in Child 1's consciousness. Therefore, when Child 1 perceived the speeding vehicle and became consciously aware of the potential for danger, Child 1 experienced a biological and psychological reaction. Child 1's body tensed up and Child 1 began to feel anxious. Luckily, Child 1 was able to warn Child 2 of the potential for danger before any harm was done. In the previous example, Child 1 and Child 2 experienced the same situation of a ball rolling into the street towards an intersection. However, Child 1 and Child 2's experiences and reactions were very different when compared to each other. Child 1 and Child 2 experienced different biological and psychological reactions to the same situation due to their own perception and consciousness. When the ball rolled towards the intersection and a speeding vehicle was heading right for it, Child 1 felt tense and anxious while Child 2 felt carefree enough to keep running after the ball. In short, due to a host of different factors, Child 1 and Child 2 had unique experiences to the same event. The

aforementioned concepts which apply to the previous example may also be applied to pain. Just as Child 1 and Child 2 had unique experiences to the same event, different individuals may have unique experiences to the same type of pain.

The Biopsychosocial Model of Pain

It has been said every individual possesses the potential to react to pain in a unique way. In other words, every individual can experience the same type of pain in a different way. For example, one individual accidentally cuts his right hand. The cut is painful, however the individual calmly acknowledges the pain from the cut and slowly walks over to a sink in order to clean and bandage the wound. A second individual accidentally cuts his right hand in a similar fashion to the first individual. The pain from the cut, felt by the second person is comparable to the pain felt by the first individual. However, when the second individual acknowledges the pain from the cut, the individual becomes hysterical. The second individual proceeds to grab the right hand and scream for help. When help arrives the second individual is inconsolable and has to be escorted to a first aid kit, where others have to clean and bandage the wound. In the previous example, both individuals experienced the same type of cut and the same type of pain; however, their reactions were very different. One individual remained calm while the second became hysterical. One individual was able to clean and bandage the wound without any assistance while the other individual was, essentially, incapacitated. Each individual's experience of pain was unique. The question is, why? Why did each individual in the previous example have such a different experience to the same type of pain and why do individuals, in general, react differently to the same type of pain? Perhaps the biopsychosocial model of pain can provide the answers to the previous questions.

The biopsychosocial model of pain suggests pain is a dynamic interaction among biological, psychological and social factors unique to each individual⁴. Furthermore, the biopsychosocial model of pain suggests the forces which drive human biology as well as the forces behind individual perception and consciousness contribute to the individual's experience of pain. Basically, the biopsychosocial model of pain puts forth the following theory: individually distinctive human biological factors such as tissue health, psychological factors such as memory and social factors such as specific cultural traditions possess the potential to create distinct experiences of pain, specific to the individual⁴. In short, individuals may have the ability to experience the same type of pain in their own unique way. The previous example highlights the concepts of the biopsychosocial model of pain. In the previous example each individual cuts the right hand in the same way, which resulted in a comparable type of

pain. However, each individual's experience of pain was recognizably different, which prompted the following question: why did each individual in the previous example have such a different experience to the same type of pain? According to the biopsychosocial model of pain, the answer to the question may be relatively straightforward. The reason each individual in the previous example had such a different experience of pain when they cut their hands may be, at least in part, due to their personally distinct biological, psychological and social factors. In other words, each individual's biological, psychological and social factors converged to create a unique experience of pain.

Each individual is different, especially when it pertains to psychological and social factors. When pain occurs it may begin on the biological level; however, along the way of pain interpretation, psychological and social factors play major roles in shaping and forming each individual's experience of pain. Subsequently, each individual possesses the potential to experience pain in a unique way, which significantly impacts the complexity of treating and managing pain. Often when individuals are receiving health care their biological, psychological and social factors are in a state of flux, meaning they may change or evolve over time. As patients' biological, psychological and social factors fluctuate so may their interpretation or experience of pain, making it difficult for health care professionals to effectively administer pain therapy. The biopsychosocial model of pain provides great insight into why experiences of pain may vary. It also reveals another major factor which contributes to the complexity of treating and managing pain: the experience of pain is subjective.

The Experience of Pain is Subjective

When something is subjective, it is an opinion or point of view. Subjectivity derives from one's own view point, meaning subjectivity is an interpretation based on individual perspective. For example, one individual may believe an object is beautiful while another individual may completely disagree and find the same object repulsive. The object remains the same independent of the individual's view point; however, the interpretation of the object differs depending on the individual's point of view/perspective. Subjectivity as it relates to clinical pain may be interpreted as follows: clinically, pain is whatever the patient says he or she is experiencing whenever he or she says it occurs⁵. In other words, pain is whatever the patient reports it to be. In essence, the experience of pain is subjective because pain is an opinion. Pain is experienced from an individual's point of view. The individual is the only one experiencing his or her pain, therefore the experience of pain is unique to the

individual. Furthermore, the reaction to pain belongs solely to the individual experiencing the pain. A reaction to pain is determined by the individual's perspective of what he or she is experiencing. If an individual is experiencing extreme pain from a physical injury there is no way to definitively conclude whether or not the individual is experiencing extreme pain from an injury because the experience of the pain from the injury belongs solely to the individual. No other individual is experiencing the pain felt from the injury, thus it is unique to the individual and, ultimately, whatever the individual says it is. If an individual reports pain from an injury is extreme, then the pain from the injury is extreme. On the other hand if an individual reports minimal pain from the same type injury than the pain is minimal. The following example will highlight the previous concepts. Basketball Player 1 and Basketball Player 2 are playing in two separate games. During their games Basketball Player 1 and Basketball Player 2 each jam their right index finger and fracture it. Both players experience the same type of index finger fracture. Basketball Player 1 reports the injury is somewhat painful, but the pain is minimal. Basketball Player 1 simply tapes the index finger to the middle finger and continues playing the game until it ends. Basketball Player 2 reports extreme pain from the injury and wants to be transported to a hospital immediately. Both players in the previous example experienced the same type of injury, however their reactions and overall experience of pain was much different. Basketball Player 1 was able to finish the game, while Basketball Player 2 was not. Basketball Player 1 reported minimal pain from the injury, while Basketball Player 2 reported extreme pain from the same type of injury. Each experience of pain in the previous example was unique to each individual. Subsequently, the reactions to the pain were distinct. Each reaction belonged solely to the individual basketball player, the reason being that each basketball player had a different point of view or perspective on the pain. Basketball Player 1 believed the pain was minimal, therefore the pain was minimal and Basketball Player 1 was able to continue playing in the game. Basketball Player 2 believed the pain from the injury was extreme, thus the pain was extreme and Basketball Player 2 was not able to continue playing. The experience of pain from the fractured index finger was determined by each individual player. It was the player's opinion of the pain which drove their individual experiences. Their opinions differed, therefore, their experience of pain differed.

Pain is subjective, it is based on personal experience. It is opinion driven and belongs only to the individual experiencing it. From one perspective pain can be excruciating. From another perspective the same type of pain can be hardly noticeable. It all depends on the individual experiencing the pain. In short, the experience of pain is determined by the individual from his or her perspective. Pain is whatever the individual or patient says it is. With that said, how does the subjectivity of pain impact the treatment and management of pain? The subjectivity of pain impacts the

Section 3: Key Concepts

- Pain management plans should meet the individual needs and goals of each patient.
- Pain management plans may include both non-pharmacological and pharmacological treatment options.
- Non-pharmacological treatment options for pain management include: physical therapy, massage therapy and psychotherapy.
- Pharmacological treatment options for pain management include a variety of different medications from various medication classes.
- Health care professionals should be aware of each pain medication's characteristics in order to safely and effectively administer pain medications to patients.

Section 3: Key Terms

Pain management - the process of using non-pharmacological, pharmacological and/or other means to prevent, limit and treat pain¹⁷

Pain management plan - the strategy health care professionals use to prevent, limit and treat an individual patient's pain through a combination of varying therapeutic options^{16,17}

Physical therapy - the practice of treating a disease, condition, injury and/or pain through physical means¹⁹

Massage therapy - the practice of treating a disease, condition, injury and/or pain through the physical manipulation of soft tissue¹⁷

Psychotherapy - the use of psychological techniques and/or psychotherapeutic approaches to help individuals overcome problems and develop healthier habits²⁰

Cognitive-behavioral therapy - the type of talk therapy which can be used to help individuals solve problems and create positive outcomes by changing unrealistically negative patterns of thought and behavior²¹

Opioid-induced respiratory depression - a decrease in the effectiveness of a patient's ventilatory function after opioid administration²⁵

Sedation - a wide range of varying states of consciousness²⁵

Abuse - the act of taking a medication with the intent of achieving an euphoric sensation²³

Misuse - the act of taking a medication at one's own discretion, without following the directions of a health care professional²³

Section 3: Personal Reflection Question

How can health care professionals safely and effectively manage patient's pain?



Case Review

The following cases were presented at the beginning of this course to highlight the complexity of managing pain. The cases will now be revisited to review the concepts presented in this course.

Case 1

A team of health care professionals meet first thing in the morning to conduct their interdisciplinary rounds. Their patient load is quite full so they begin their rounds right away. The health care team's first patient is a 26-year-old male who has recently suffered multiple rib fractures and minor internal injuries due to a motor vehicle accident. Upon entering the patient's room the patient immediately informs the team that he is in a lot of pain. He then requests "stronger pain meds" because he claims he is in constant pain. A member of the health care team asks the patient to rate his pain on a scale from 0 - 10. The patient responds and tells the health care team that his pain is about a 7 or an 8. The patient then goes on to explain that his pain increases to a 9 when he "moves a lot." The team examines the patient and reviews the patient's current medication list, which includes both Percocet and acetaminophen as needed for pain. Before the health care team leaves the patient's room the patient goes on to explain that he is nervous about his upcoming discharge because he is in pain and he wants to make sure he has "enough pain meds" to take upon discharge. As the health care team exits the patient's room, the patient's mother approaches the team. She follows them away from the patient's room and begins to discuss her concerns about her son's current condition. The patient's mother informs the team that her son has a "drinking problem" and she is pretty sure he has used "drugs" in the past. The patient's mother then goes on to say that she has observed her son when his friends have come to visit him. The patient's mother reports her son does not appear to be in pain when he has visitors. He often smiles, jokes and moves around his bed with ease. The mother then questions how much pain her son is actually in and asks the health care team what medications they plan on keeping her son on upon discharge.

What challenges does the patient in Case 1 present to the team of health care professionals?

The patient from Case 1 presents many challenges to the team of health care professionals. One of the challenges relates to the patient's medications. The patient is on both Percocet and acetaminophen. Percocet is a combination product, which contains both oxycodone and acetaminophen. Health care professionals must be aware that many pain medications, such as Percocet, contain acetaminophen. The challenge for health care professionals when administering acetaminophen with other pain products that contain acetaminophen is to ensure the total daily dose of acetaminophen does not exceed 4000 mg. The recommended maximum total daily dose of acetaminophen, for patients being monitored by health care professionals, is 4000 mg²³. Therefore, health care professionals should not administer more 4000 mg of acetaminophen to patients within a 24 hour period.

The second, and perhaps the most serious, challenge presented to the team of health care professionals is the patient's potential for medication abuse and/or misuse. Opioids, such as oxycodone, may lead to physical dependence, addiction, abuse and misuse²³. Health care professionals must be aware of those factors when administering opioids to patients, especially if patients have a history of substance abuse or misuse.

How can the team of health care professionals address the challenges put forth by the patient in Case 1?

Course Review

The following questions are presented to further review the concepts found in this course. By reviewing these questions health care professionals can obtain practical knowledge which may be used to safely and effectively administer health care to patients experiencing pain.

What is the primary goal of active listening?

The primary goal of active listening is to obtain meaning. Health care professionals may use active listening skills to effectively assess patients' pain.

What is an open-ended question?

An open-ended question is a question designed to obtain viable information from an individual; open-ended questions are used to avoid "yes" and "no" answers. Health care professionals can use open-ended questions when assessing patients' pain to help their patients open up about their pain and provide useful information regarding their experiences of pain. An example of an open-ended question is as follows: "what makes your pain worse?"

What is the PAINAD scale?

The PAINAD scale can refer to the tool which can be used by health care professionals to assess pain in patients with advanced dementia¹⁵. There are a variety of pain assessment tools at the disposal of health care professionals. Health care professionals should be aware of the different pain assessment tools and which tools can best help them assess patients' pain.

What is an example of a realistic pain management goal?

An example of a realistic pain management goal for a patient receiving pain therapy may be as follows - "I would like to be able to get a full night's sleep" or "I would like to be able to walk 6 blocks in 5 months time." It is important that health care professionals help patients set realistic pain management goals. Realistic goals can help patients maintain treatment focus, desire and motivation as well as identify what they are working towards.

A 32-year-old female patient is ordered Percocet for pain management. The patient has a known drug allergy to acetaminophen. Should Percocet be administered to the patient?

Percocet is a combination product, which contains both oxycodone and acetaminophen. Patients with known allergies to acetaminophen should not receive acetaminophen products. Health care professionals should always be aware of patients' known drug allergies when administering medications to patients. An allergic reaction to a medication can be dangerous and may lead to a host of complications such as: difficulty breathing as well as swelling of the face, mouth, and throat²³. Furthermore, health care professionals should be aware of each pain medication's characteristics in order to safely and effectively administer pain medications to patients experiencing pain.

Conclusion

Pain is the body's reaction to actual or potential damage and/or destruction². Pain is a necessary part of the human body's process to avoid trauma and injury. The experience of pain begins when peripherally localized neurons, known as nociceptors, are stimulated by noxious stimulus, such as tissue damage or extreme pressure. When a nociceptor is stimulated by noxious stimulus it sends messages to the spinal cord². Once the messages are received by the spinal cord they travel to the brain via the spinothalamic tract². The spinothalamic tract takes the pain information up to the thalamus. When the pain information reaches the thalamus, it is then relayed to the somatosensory cortex². Once the pain information reaches the somatosensory cortex, it is processed and interpreted. The human body then reacts based on the interpretation of the pain.

During the interpretation of pain information many factors contribute to the overall experience of pain, including both biological and psychological factors. The biopsychosocial model of pain suggests pain is a dynamic interaction among biological, psychological and social factors unique to each individual⁴. The biopsychosocial model of pain suggests reasoning for each individual's distinct experience of pain. The biopsychosocial model of pain also may assist in the comprehension of the subjectivity of pain.

Pain is subjective. The experience of pain is an opinion from the point of view/ perspective of the individual. For that reason, clinically, pain is whatever the patient says he or she is experiencing, whenever he or she says it occurs⁵. The subjectivity of pain along with other factors such as patient reporting and varying types of pain can contribute to the overall complexity of managing pain.

Pain management can be a complex challenge for health care professionals. However, if left untreated, pain may lead to a host of complications including: decreased mobility, muscle atrophy, obesity, decreased cardiovascular health, sexual, hormonal and cognitive dysfunction, as well as insomnia, depression and even suicide⁷. Essentially, untreated pain possesses the potential to completely alter and/or devastate a patient's overall health, well-being and quality of life. Untreated pain can transform a well-adjusted, healthy, active individual into a depressed, inactive, cognitively impaired individual that does not enjoy life. Therefore, it is both the clinical and ethical responsibility of health care professionals to manage patients' pain.

Health care professionals can reduce the complexity of managing pain by conducting effective pain assessments and by establishing patient-centered goals. Once health care professionals gain an understanding of a patient's pain, a pain management plan

can be designed and developed for the individual patient. Pain management plans can include both non-pharmacological and pharmacological treatment options. Common non-pharmacological treatment options used to safely and effectively manage pain include: physical therapy, massage therapy and psychotherapy. Common pharmacological treatment options used to manage pain include medications such as: acetaminophen, aspirin, ibuprofen, naproxen, celecoxib, lidocaine, gabapentin, cyclobenzaprine and opioids.

Finally, pain is common and researchers predict the prevalence of pain will only continue to increase over the next few years. Furthermore, due to a host of different factors, pain can be a challenge to manage. However, with a clear understanding of pain and pain management health care professionals can safely and effectively administer health care to patients experiencing pain.

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