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The Opioid Crisis

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The Opioid Crisis

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Abstract

The purpose of this report is to explore the increase of people who have become addicted to opioids after prescribed the narcotic by a doctor or obtaining them illegally. Opioid addiction has resulted in many people in the United States and abroad becoming dependent on opioids for basic daily activities. Medical experts have found multiple solutions to stop addiction caused by doctors and other healthcare professionals who can prescribe medications. However, recent data shows that opioid addiction is still on the rise. This report includes how the crisis began, the different methods recommended to slow the crisis and current statistics on how the methods have helped those who have been under the influence of opioids.

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Introduction

Opioids are prescription pain relievers that are considered the leading cause of overdose in the United States. Throughout the years, the U.S has gone through several crisis's that involve the misuse of drugs and prescriptions leading to early demises for the individuals that are addicted to them. Common types of opioids such as Heroin, Fentanyl Oxycodone and Morphine have exacerbated the issue. Due to the rise of drug abuse, physicians have had to rethink prescribing pain relievers to their patients and have implemented a plan to help prevent further addiction along with aiding those currently addicted in recovery.

What is Included in this Report?

This report will go over topics such as addiction and how it can affect people differently. A broad definition of what opioids are and how they affect the body will also be touched on. Other topics in this report include a look into the historical background of opioids such as when they were first discovered, conditions they are used to treat and history of abuse. The most common types of opioids will also be discussed and additionally their effects short term and long term. Complications from opioids will be involved and finally, how medical professionals are slowing the rate of addiction.

Consensus on Current Opioid Crisis

Most medical professionals would agree that there is a drug crisis currently in the United States caused by over prescribing pain relievers such as opioids. According to the National Institute on Drug Abuse, "In 2019, nearly 50,000 people in the United States died from opioid-involved overdoses. The misuse of and addiction to opioids-including prescription pain relievers, heroin, and synthetic opioids such as fentanyl-is a serious national crisis that affects public health

as well as social and economic welfare” (p.1, 2022) Individuals who were affected by this crisis are still recovering from its effects today. The opioid crisis called for an immediate response from health organizations in our country. With the early demise of so many individuals affected by opioid use, different methods of combating the high addiction rate needed to be and have been put into place.

Accomplishments of Writing this Paper

One of the main reasons I chose to talk about this topic was because it was something personal that I have dealt with my entire life growing up. My family member and myself had gotten in a bad car wreck in 2005, which resulted in her taking Opioids. She had taken painkillers shortly before we hit the road. After that, our lives changed forever. She became codependent on painkillers, fentanyl patches, and much more. One reason that I felt I needed to do research on this topic was because I never knew the actual side effects, how it makes a person feel or function, or really what the drug was and could do to a person. Learning about how dangerous and potent it had given me all the reasons to make sure my own kids do not fall in that route. From writing this page, I hope to learn new facts and walk away with knowing that judging a person for having an addiction is not okay.

By authoring this report, I hope to accomplish informing on the topic of the opioid crisis as well as the negative effects it has caused people who have battled with addiction. I also hope to inform about the most common and addictive types of opioids and include information on how an individual addicted to opioids can recover. After doing research on this topic, I hope to learn more on how I can be an advocate for others that are struggling with addiction.

What is Addiction

Addiction is not always in terms of drugs. People can be addicted to video games, exercise routines and other actions such as gambling. When someone is addicted to something they often repeat that action over and over because it provides them with a certain type of high or relief. Addiction still is not fully understood by medical professionals; however, addiction has been categorized into two main forms. Crystal Raypole, a reporter for Healthline with the help of Timothy J. Legg, a board-certified geriatric and psychiatric mental health practitioner, states that “addiction can be categorized as either chemical or behavioral. Chemical addiction refers to the use of substances and Behavioral addiction refers to compulsive behaviors that an individual repeats even if it does not offer any real benefits.” With the negative status of addiction, it is hard to comprehend why someone would choose to start or continue abusing substances and/or behaving in certain ways that are not necessarily beneficial to one’s life. “The National Institute on Drug Abuse claims that there is a combination of factors that can influence someone to take the risk of addiction. These factors can include biology such as genes that people are born with, gender and ethnicity. Other factors that determine one’s risk to addiction include an individual’s environment and development” (p. 1, 2022).

Broad Definition

Addiction is more than just the urge to abuse substances that are harmful to your body. The American society of Addiction Medication states that “Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual’s life experiences” (p. 1, 2022). Addiction is most often an unwelcome action that a person cannot stop doing, however, with the appropriate measures and mindset an

individual can overcome their addiction and recover. It is also important to note that addiction can happen to anyone. Most individuals who start abusing substances do not plan to get addicted to them, and some individuals with a lower risk of addiction sometimes never get fully addicted and dependent on the drug.

How Addiction Effects People

Addiction to any substance whether chemical or behavioral effects people differently. For example, some individuals can drink a cup of caffeinated coffee and have zero side effects from it. Those who are more sensitive to caffeine may find themselves more alert and even jittery. Just like with caffeine, individuals who are addicted to opioids may have different reactions after absorbing the substance. West Coast Recovery Treatment Centers, an outpatient treatment facility founded in 2012 in California states that “Addiction affects everyone differently because each of us is a product of our own experiences and environments. There is no one path to becoming addicted to drinking or using drugs” (p. 1, 2022). Our own unique DNA contributes to how drugs will affect us. No one considers addiction the first time they are using an addicting substance, however, depending on a variety of risk factors attributed to upbringing can determine how a certain drug may impact you.

One good example of an addiction other than opioids is Gambling. According to the *Addiction center*, it is estimated that around two million people in the US are addicted to gambling, and that for as many as 20 million the habit seriously interferes with work and social life. Gambling addiction is the uncontrollable urge to continue gambling despite the toll it takes on one’s life. Gambling is addictive because it stimulates the brain’s reward system much like drugs or alcohol can. In fact, gambling addiction is the most common impulse control disorder

worldwide. (addictioncenter, p.1) There are many different reasons people chose to gamble, one being that they are financially hurting, so they think that they can come up. Another is that they like the feeling they get when they win. Gambling can hurt not only yourself, but your loved ones as well. If you owe someone a lot of money and can not pay them back this can cause risky behavior. Many problem gamblers will then often resort to illegal activities, such as theft or fraud, to fund their addiction. Those who are unable to pay off their debts are forced to declare bankruptcy and may even lose their homes. (addictioncenter, p.1)

Like Meth and Cocaine, gambling addiction is associated with release of dopamine within the brain. Addictive substances affect the brain's reward system and release up to 10 times the normal amount of dopamine. Continuous use then causes the body to develop a tolerance, as natural production of dopamine is inhibited, and the body needs more and more of the stimulating substance in order to receive the same rush. (addictioncenter, p.1)

What are Opioids

Characteristics that classify an opioid are compounds that are divided into four chemicals which are, the morphinan derivatives, the diphenyl heptane derivatives, the benzomorphan derivatives and the phenylpiperidine derivatives. Opioids can be classified by their synthetic process. Naturally occurring compounds such as codeine, morphine. Semi-synthetic compounds such as oxycodone and buprenorphine, and synthetic compounds such as fentanyl and methadone. Many prescription opioids are used to block pain signals between the brain and the body and are typically prescribed to treat moderate to severe pain. In addition to controlling pain, opioids can make some people feel relaxed, happy or "high," and can be addictive. (Hopkins medical, p 1)

“Opioid use comes with risk, as known. Often regular use of these prescribed medications can increase your tolerance and dependence, requiring higher and more frequent doses. In some cases, longer term use can lead to addiction. In addition, opioids can restrict your ability to breathe when taken at a higher dose, and when misused, can lead to a fatal overdose.” (hopskinsmedicine, p. 1)

Characteristics that Classify an Opioid

Opioids can be categorized according to the type of opioid receptor at which they produce their effects. There are three opioid receptors. These receptors are all G-protein-coupled receptors, morphine, delta, and kappa. Opioids can either act as agonists, antagonists or partial agonists at these receptors.

“In this manner opioids can be considered as agonists, partial agonists and antagonists. Agonists interact with a receptor to produce a maximal response from that receptor. Conversely antagonists bind to receptors but produce no functional response, while at the same time preventing an agonist from binding to that receptor. Partial agonists bind to receptors but only elicit a partial functional response no matter the amount of drug administered.” (ncbi, p 1)

How Opioids Work in the Body

The brain’s reward circuit which is known as a system that motivates you to do daily things to survive like eat, drink, bath, etc. Once a person consumes too many drugs over and over, the circuit is flooded with chemicals. The brain then reduces its cells and how the reward circuit responds to it and the daily things they need to do. One reason some people take more of the drug is to relieve the high that they are feeling when they first took the drug. This reduces the brain functioning to be able to operate a car, have a sex drive, eat, drink, and bath. Addiction is

very common, and when you start to use opioids, you tell yourself you can stop at any moment, but over time it becomes something you can't live without.

Opioids have actions at two sites, the presynaptic nerve terminal and the postsynaptic neuron. The postsynaptic actions of opioids are usually inhibitory. The presynaptic action of opioids is to inhibit neurotransmitter release, and this is their major effect in the nervous system. However, the final effect of an opioid in the brain is the result, not only of its action at multiple presynaptic sites on both inhibitory and excitatory neurons, but also of its postsynaptic effects. For example, presynaptic inhibition of neurotransmitter release may result in excitatory effects in a target neuron if the neurotransmitter normally produces an inhibitory effect. However, if the opioid also has a postsynaptic inhibitory effect on the target neuron, the excitatory effects may not occur. Thus, the location and density of opioid receptors on a neuron determines the overall effect of opioids on the neuron. (nps.org, p. 1)

Tolerance and Dependence

Tolerance and dependence are induced by chronic exposure to morphine and other opioids more than any other group of drugs. Tolerance means that higher doses of opioids are required to produce an effect. When the degree of tolerance is very marked, the maximum response attainable with the opioid is also reduced. Tolerance is mainly due to receptor desensitisation induced by functional uncoupling of opioid receptors from G-proteins, thus uncoupling the receptors from their effector systems. However, the mechanism of this desensitisation is still not fully understood. Although dependence usually accompanies tolerance, they are distinct phenomena. Dependence is masked until the opioid drug is removed from its receptors, either by stopping the drug or by giving an opioid receptor antagonist such as

naloxone. A withdrawal or abstinence response then occurs. The withdrawal response is very complex and involves many brain regions. Dependence occurs much more rapidly than tolerance, and naloxone-precipitated withdrawal can be seen after a single dose of morphine in humans. Adenylate cyclase has long been implicated in opioid withdrawal and increased adenylate cyclase activity following chronic morphine treatment has been observed in the locus ceruleus, a central noradrenergic cell group which is considered to play a major role in opioid withdrawal. However, the mechanisms involved in other brain regions remain to be elucidated. (nps.org, p.1)

Inhibition of neurotransmitter release is the major mechanism of action responsible for the clinical effects of opioids. Nevertheless, despite extensive investigation, understanding of the cellular actions of morphine and other opioids is incomplete. This is surprising for a group of drugs with such powerful effects and is a reflection of the complexity of the mechanisms involved in neurotransmitter release. Confirmation of current hypotheses regarding mechanisms of opioid inhibition of neurotransmitter release must await the application of more refined techniques. Recent advances in the molecular biology of opioid receptors promise significant advances in opioid pharmacology and should aid discovery of opioids with more selective actions. (nps.org, p.1)

Historical Background

An 8,000-year-old hardened clay tablet written by the Sumerians describe the earliest prescriptions of opium. As time passed on the written word became more and more common, and we know that the “milk” of the opium poppy plant was regarded as a cure-all to the Egyptians, Chinese, and other ancient civilizations. The ancient Greeks considered the opium

poppy to be a sacred plant – a gift from the god Demeter. Archaeologists even uncovered small statuettes of “poppy goddesses” on the Greek island of Crete. Farther East, new medical uses of opium were found by Arab scholars such as the Basra physician al-Kindi. In addition to being a brilliant mathematician and philosopher, al-Kindi published a list of the correct amounts of medicinal opium to administer to a patient depending on their ailment. As humanity moved into the medieval period, opium found a new market as the Bubonic Plague spread across Europe. If a person was lucky enough to be born into a wealthy or noble family, opium was administered to protect and treat the symptoms of the plague. By the end of the medieval period, the first hints of recreational use and abuse were surfacing in the Persian Empire. Rulers of the Mughal Empire developed opium habits by eating it. In fact, the fourth Mughal Emperor Jahangir had a diet of opium and wine that was so severe it left him incapable of ruling. In 1620, his wife Nur Jahan had to lead in his place.

In 1676, opium experienced one of its greatest leaps forward – both in terms of availability and abuse. English Physician Thomas Sydenham perfected his recipe for laudanum, and shared his discovery worldwide. By the mid-1700s, it would be difficult to find a home that didn’t keep a bottle of laudanum handy for all ailments. It’s no surprise then that the availability and affordability of this opium cocktail led to rampant abuse across the globe. In 1753, Scottish surgeon George Young published *A Treatise on Opium*, which served as a practical guide for physicians in the uses of opium and, more importantly, spent quite a few pages writing about complications brought on by its abuse. Young writes, “Everybody knows a large dose of laudanum will kill, so need not be cautioned on that head; but there are few who consider it a slow poison, though it certainly is.”

Not long thereafter, doctors began to take note of the increasing number of women who were becoming addicted to opium, primarily in the form of laudanum. In 1782 French American writer J. Hector St John de Crevecoeur touched on this discovery in his book *Letters from an American Farmer* and documented what could be considered America's first opioid epidemic. In his book he writes that women were "taking a dose of opium every morning, and so deep-rooted is it that they would be at a loss how to live without this indulgence."

Poppy Plant

"Opium is a highly addictive non-synthetic narcotic that is extracted from the poppy plant, *Papaver somniferum*. The opium poppy is the key source for many narcotics, including morphine, codeine, and heroin. (Dea.gov, p. 1)

What is its Origin

"The poppy plant, *Papaver somniferum*, is the source of opium. It was grown in the Mediterranean region as early as 5000 B.C. and has since been cultivated in several countries throughout the world. The milky fluid that seeps from its incisions in the unripe seedpod of this poppy has been scraped by hand and air-dried to produce what is known as opium. A more modern method of harvesting for pharmaceutical use is by the industrial poppy straw process of extracting alkaloids from the mature dried plant. All opium and poppy straw used for pharmaceutical products are imported into the United States from legitimate sources in regulated countries." (Dea.gov, p. 1)

"The opium poppy reached China during the 7th century through the efforts of Arab traders who advocated its use for medicinal purposes. A Chinese surgeon Hua To of the Three Kingdoms used opium preparations and *Cannabis indica* for his patients to swallow before

undergoing major surgery. The beginning of widespread opium use in China has been associated by some historians with the introduction of tobacco into that country by the Dutch from Java in the 17th century. The Chinese were reported to mix opium with tobacco. The practice was adopted throughout the area and eventually resulted in increased opium smoking, both with and without tobacco. (ojp.gov p.7)

“In 1803, the German pharmacist Serturmer isolated and described the principal alkaloid in opium, which he named morphium after Morpheus, the Greek god of dreams. The invention of the syringe and the discovery of other alkaloids of opium soon followed: codeine in 1832 and papaverine in 1848. By the 1850s, the medical use of pure alkaloids rather than crude opium preparations was common.” (ojp.gov p.7)

“In the United States, opium preparations became widely available in the 19th century and morphine was used extensively as a painkiller for wounded soldiers during the Civil War. The inevitable result was opium addiction, contemporarily called "the army disease" or "soldier's disease." These opium and morphine abuse problems prompted a scientific search for potent but nonaddictive painkillers. In the 1870s, chemists developed an opium-based and supposedly non-addictive substitute for morphine. The Bayer pharmaceutical company of Germany was the first to produce the new drug in large quantity under the brand name Heroin. This product was obtained by the acetylation of morphine. Soon thereafter studies showed heroin to have narcotic and addictive properties far exceeding those of morphine.” (ojp.gov p.9)

What Effects It Has on Your Brain

“Opium can be smoked, intravenously injected, or taken in pill form. Opium is also abused in combination with other drugs. The intensity of opium’s euphoric effects on the brain

depends on the dose and route of administration. It works quickly when smoked because the opiate chemicals pass into the lungs, where they are quickly absorbed and then sent to the brain. An opium “high” is very similar to a heroin “high”; users experience a euphoric rush, followed by relaxation and the relief of physical pain. Opium inhibits muscle movement in the bowels leading to constipation. It also can dry out the mouth and mucous membranes in the nose. Opium use leads to physical and psychological dependence and can lead to overdose.” (Dea.gov, p.1)

While opioid use disorder is like other substance use disorders, opioids can lead to physical dependence within a short time, as little as four to eight weeks. According to the *American psychiatric association*, In chronic users, the abruptly stopping use of opioids leads to severe symptoms, including generalized pain, chills, cramps, diarrhea, dilated pupils, restlessness, anxiety, nausea, vomiting, insomnia, and very intense cravings. Because these symptoms are severe it creates significant motivation to continue using opioids to prevent withdrawal. (psychiatry.org, p.1) As with other addictions, both genetic factors and environmental factors, such as ease of access, contribute to the risk of opioid use disorder. Access to prescription opioids and to heroin have contributed to the current opioid epidemic.

According to the American Medical Association, an estimated 3 to 19 percent of people who take prescription pain medications develop an addiction to them. People misusing opioids may try to switch from prescription pain killers to heroin when it is more easily available. About 45 percent of people who use heroin started with an addiction to prescription opioids, according to the AMA. More than half of people misusing opioid medications report: Obtaining them for free or stealing them from a friend or family member. Going to multiple doctors to get additional prescriptions. Filing prescriptions at different pharmacies so that no one will notice how many pills they get each month. (psychiatry.org, p.1)

Emergence of Opioids

Opioids were first discovered in the early 1800s by Dr. Charles Woods. Dr. Woods is accredited to inventing the hypodermic needle and using it to inject morphine to relieve pain from neuralgia. A German physician named Dr. Eduard Livenstein produced the first description of what addiction to morphine was like, including the withdrawal syndrome and relapse, and argued that craving for morphine was a physiological response. During the 1990's Opioids for chronic pain began to increase. Year to year, it continues to rise for a variety of medical and nonmedical factors which is relevant still today.

Is Opioid Addiction a Disease

Opioid addiction is not simply like diseases such as the flu, there is no cure for the flu. We can take medicine, but it must run its course. We can think of opioid abuse as a medical illness that is governed by things inside of us and outside of us.” (Hopkins, p1)

“When we talk about addiction or opioid use disorder, often people refer to a syndrome of symptoms. There is a syndrome of problematic use of the opioid. The syndrome has features, such as the person using the opioid is giving up other things in their life, and the use of the drug starts to impact their relationships. They crave the drug, and the use of it starts to impact their whole life. Their life becomes organized around the use.” (Hopkins medical, p 1)

With Opioids and other drugs, there is something else we must look at which is physical dependence, and a physiological adaptation that occurs when using a substance. When the person stops taking the drug, they experience withdrawal. For example, if you are a soda drinker, and you stop drinking sodas, you could develop a caffeine headache from withdrawing from it. A person may be dependent on a drug or substance but not have any reason to take it.

Opioids and Chronic Pain

Chronic pain is a major public health problem that many individuals suffer from daily. According to Cleveland Clinic, a non-profit academic medical center, “Chronic pain is pain that lasts for over three months and can interfere with your daily activities such as working, having a social life, and taking care of yourself and others.” (p. 1, 2022) The pain that some individuals feel can be unbearable, which can make them seek out relief by inquiring for a prescription from their doctors. Doctors do agree that long-term opioid therapy is able to help patients to have a better life and improved health outcomes if the patient receives the right medicine and treatment plan. However, with addiction rates to opioids being high, doctors are being cautious to ensure that their patients really do need the medication and are not trying to fuel their addiction. “Because addiction is associated with psychological distress and physical discomfort in the form of opioid withdrawal symptoms, it may be difficult to distinguish primary chronic pain complaints from withdrawal pain.” Due to the difficulty of being able to tell if a patient really needs pain relief or is faking it, some doctors are weary of prescribing their patients pain relievers due to fear of exacerbating the opioid crisis.

Medical Problems

Commonly associated with opioid dependency are significant changes in social behaviour. Even though these changes appear to be closely related with apathy and financial constraint, it should be borne in mind that not all drug users are in the lower economic groups and that they may lead an apparently normal lifestyle. The neglect of personal care is a frequently observed behavior amongst opioid users, irrespective of economic status.¹³ Accordingly, opioid users tend to seek treatment only when the disease is advanced and the symptoms become severe.¹⁵ Such late-presenting patients with severe symptoms may be

anxious and demanding, consequently making their management considerably more challenging. The altered social behavior of drug users often leads to increased sexual activity without the use of precautionary measures. Such unsafe practices generally occur during periods of euphoria when users become more promiscuous as well as during prostitution, which drug dependents may resort to for necessary income.¹⁶ Opioid users also demonstrate a propensity to be exposed to violent situations, which may be responsible for the higher rates of trauma experienced by these individuals. (Australian Dental Journal, p.2)

Common Types of Opioids

Heroin, Fentanyl, morphine, hydromorphone, oxymorphone, methadone, hydrocodone, codeine, tramadol, meperidine and oxycodone are the three most common types of opioids. All of them come with short- and long-term negative effects and specific dangers that go along with addiction to these substances.

“Opioids are a class of drugs naturally found in the opium poppy plant. Some prescription opioids are made from the plant directly, and others are made by scientists in labs using the same chemical structure.” Prescription opioids are often used to relax your body and help relieve your pain level. Opioids can make a person feel “high” or relaxed to stimulate the feeling of not feeling anything. This is when opioids become dangerous because people become addicted to the feeling of what they can do for them.

Some of the most popular opioids are heroin, oxycodone, fentanyl, morphine and hydrocodone. People can misuse taking prescription drugs. Typically, they will crush up their pills, snort them, or inject them with needle. “When opioids attach to these receptors, they block pain signals sent from the brain to the body and release large amounts of dopamine throughout

the body. This release can strongly reinforce the act of taking the drug, making the user want to repeat the experience.” (NIDA, p 1)

Heroin

“Heroin is an illegal, highly addictive drug processed from morphine, a naturally occurring substance extracted from the seed pod of certain varieties of poppy plants. It is typically sold as a white or brownish powder that is "cut" with sugars, starch, powdered milk, or quinine” (NIDA, what is heroin and how is it used, p.1, 2021). Heroin is injected into the blood stream using a method of “cooking” the drug and inserting it with a needle. Other methods can include crushing and or snorting heroin while it is still in its purest form.

Short Term Effects of Heroin

“Once heroin enters the brain, it is converted to morphine and binds rapidly to opioid receptors. People who use heroin typically report feeling a surge of pleasurable sensation—a “rush”” (NIDA, what are the immediate (short-term) effects of heroin use, p. 1, 2021).

The National Institute of Drug Abuse (NIDA) claims other short-term effects include:

- Warm flushing of the skin
- Dry mouth
- Heavy feeling in the extremities
- Nausea
- Vomiting
- Severe itching
- Drowsiness
- Clouded mental function
- Slowing of heart function
- Breathing severely slowed

- Coma
- Permanent brain damage

Long Term Effects of Heroin

NAID states that “long term repeated heroin use changes the physical structure and physiology of the brain, creating long-term imbalances in neuronal and hormonal systems that are not easily reversed” (What are the long-term effects of heroin use, p. 1, 2021).

Other effects that NAID includes for long term use of heroin:

- Deterioration of the brains white matter
- Decision making abilities
- Ability to regulate behavior
- Profound degree of tolerance
- Physical dependence
- Withdrawal symptoms

Symptoms that can occur after withdrawal:

- Restlessness
- Muscle and bone pain
- Insomnia
- Diarrhea
- Vomiting
- Cold flashes

How Heroin is Abused

Heroin is a cheaper drug. It is also a more potent drug that hits your body quicker than other drugs. For many, once they can no longer get painkillers or the same high, they get, they will turn to heroin and mix it with other drugs to get a better high. Heroin blocks your body from

feeling pain, and most people who take painkillers it takes an hour or two before it even kicks in. Heroin is usually snorted but injecting it has become popular for them. One huge risk with injecting heroin is risking using a dirty needle and catching a disease.

Specific Dangers of Heroin Use

Heroin is one of the most addictive drugs that can be abused, and the outcome is tremendous. Heroin can be abused with teens if they start at a young age. Over time, the teen's ability to care for oneself as obtaining, using, and recovering from heroin use takes over life.

(Village behavioral health, pg.1). Some of the outcomes that can happen are below:

- Respiratory problems
- Pneumonia
- Depressed breathing
- Pulmonary diseases
- Infection by bloodborne pathogens
- Leading to chronic conditions such as HIV/AIDS and hepatitis
- Infection at the injection site
- Cardiac complications:
 - Pericarditis
 - Endocarditis
 - Atherosclerosis
- Blood clots to form in the arteries or veins and allow it to travel to heart
- Heart attack
- Stroke
- Overdose
- Death

How Can Overdose Be Treated

When a person on Heroin overdoses, their breathing begins to slow down, and can cause hypoxia which can lead to long term effects. There are ways to treat a Heroin overdose, which is used with a medicine called Naloxone. Naloxone works by blocking opioid receptors and other drugs. One interesting thing that I learned reading this article is that “The rising number of opioid overdose deaths has led to an increase in public health efforts to make naloxone available to at-risk persons and their families, as well as first responders and others in the community. Some states have passed laws that allow pharmacists to dispense naloxone without a prescription from a person’s personal doctor.”

Fentanyl

Fentanyl is so powerful that it is 80-100 times stronger than morphine. Fentanyl is mixed with heroin to increase the potency as a stronger version of Heroin. There was a pharmaceutical fentanyl that was developed for cancer related patients with pain and was formed into a patch that people put on their skin. Being that a lot of people who are purchasing Heroin do not know that they are risking getting a mixture of both drugs. Fentanyl can be mixed with other illegal drugs like heroin and cocaine which makes them much more potent. Mixing several different drugs can lead to a higher risk of overdose or death, because not everyone is aware of how toxic each drug is. You can get fentanyl from hospitals, your doctor can prescribe it to you, and you can buy it off the street. People can get their hands on discarded patches, and they use these to snort, inject and eat it.

How Fentanyl Affects the Brain

Like all opioids such as morphine and heroin, fentanyl works by binding to the body's opioid receptors, which affects your emotions. Being on opioids for long periods of time your brain adapts to the drug making all your problems go away. It makes it hard for you to do anything else besides the drug. Sadly, a lot of opioid use takes things from their lives, like stealing from loved ones, burning their bridges with family, and putting them at risk for overdose.

Fentanyl Patches

The fentanyl skin patch is only used for patients that can tolerate an opioid drug. If a patient is taking narcotics by the mouth, then they would most likely be prescribed to the fentanyl patch. Once the fentanyl patch is applied to your skin, the medicine slowly goes throughout the body. It can take up to twenty-four hours before the medicine begins to work. This can be miss guided as if a patient does not feel the medicine throughout their body, they tend to want more because of them being in pain, but you would not want to increase the dosage or the amount due to the considerable risk it gives. This is when you would want to take your oral narcotics in the meantime until the patch kicks in. The patch is usually good on the skin if there is damage, severe heat towards it, and the sticky part does not touch the actual skin for three days.

Specific Dangers of Fentanyl Use

Fentanyl is dangerous for many reasons because fentanyl can be laced with other drugs, and you could be sold or given drugs of which you are unaware. You cannot see it if it is in a form of a pill, or if it is in a baggie, you are not able to smell it. Fentanyl is so strong that even if

you think you can handle it, your body may reject it and you can overdose. Mixing liquor, other drugs, pain pills, and over the counter medicine can all lead to a higher risk of overdose as well.

Morphine

Morphine is opioid drug that is used to relieve pain. Morphine gives people the feeling of “dreamland.” Morphine can be taken orally, from a syrup, injecting it and even smoking it. Morphine is used to relieve the pain for mild and severe chronic pain. Morphine is always typically used in the Emergency Rooms, and when they are going to surgery. Morphine is a scheduled II drug that is so strong, once used it becomes rapid for them. When Morphine is bought or taken without a legal prescription it is considered abusing the drug and even though it is regulated when in possession is a criminal offense and can lead to jail time.

Short Term Effects of Morphine

The side effects that a person would experience when using morphine will depend on dosage, strength, and how long you use the medication. Some of the examples are listed below:

- Nausea
- Vomiting
- Constipation
- Itching
- Loss of appetite
- Lower body temperature
- Difficulty urinating
- Slow breathing
- Sleepiness
- Changes in heart rate

Long Term Effects of Morphine

Morphine use can lead to many negative side effects, it can also cause damaging effects to veins at injection.

- Long-term side effects of Morphine use include:
- Depression
- Suppressed immune system
- Restlessness
- Severe constipation
- Collapsed veins
- Confusion

How Morphine is Abused

Those who abuse Morphine are just as high risk when it comes to overdosing. One way to use morphine is to inject because it hits your blood flow faster. If you see someone that looks like they could be overdosing, here are some signs to look for. Slurred speech, intense drowsiness, fever, increased thirst, lower back or side pain, decreased responsiveness, extreme sleepiness, lack of movement, slowed breathing, muscle cramps, spasms, pain, and stiffness. The Central Nervous System becomes depressed. Someone can become unconsciousness or to a slow breathing death.

Specific Dangers of Morphine Use

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you think you can manage it, your body may reject it and you can overdose. Mixing liquor, other drugs, pain pills, and over the counter medicine can all lead to a higher risk of overdose as well.

Oxycodone

Oxycodone is a potent opioid that is used to relieve moderate or chronic pain. Oxy comes in a form of a tablet and is very similar to morphine on the pain level. When it gets in the system, it usually lasts anywhere from three to six hours. Some of the most common side effects that come with taking Oxy are constipation being the number one, nausea, headache, and dry mouth. Symptoms of an oxycodone overdose can lead to bradycardia, hypotension, respiratory depression, cold and clammy skin, and death. When a person overdoses on oxycodone, naloxone should be administered.

Due to people misusing Oxycodone, doctors should be prescribing the lowest dose only in the time frame needed. Many hospitals have teamed up with the state and government agencies to publish guidelines with pain management and opioid prescriptions. When you are prescribed a narcotic, you must sign a document every time you go pick up the script to ensure you are the one getting it. This also helps with not people trying to get more than one script as well.

Hydromorphone

Hydromorphone, which is known as Dilaudid, is prescribed as a pain reliever for severe pain. Since it is significantly stronger than morphine, it produces relaxation and extreme sedation. The drug can be dissolved and injected, causing instant effects like those of heroin. Consequently, many people who suffer from an opioid use disorder will use hydromorphone as a substitute for heroin.

Hydromorphone extended-release capsules and extended-release tablets should not be used if you need pain medicine for just a short time, such as when recovering from surgery. Do not use this medicine to relieve mild pain. This medicine should not be used to treat pain that you only have occasionally or "as needed". (mayoclinic, p.1)

Oxymorphone

Oxymorphone is also referred to Opana. Although it has medicinal use in treating moderate to severe pain, it still has a high potential for abuse. It is usually dispensed in pill form; however, it also comes as a liquid made for injection. Oxymorphone is easily abused by people who swallow the pills, snort them, or inject them. They can also be obtained illicitly on the street.

Methadone

Methadone is strictly regulated because it is prescribed to treat opioid addiction and to help reduce opioid withdrawal symptoms. Methadone can be swallowed or injected. However, abusing methadone against a physician's orders is illegal. Methadone has a similar chemical structure to that of morphine and heroin. In addition, it can make users feel euphoric and sedated. Since methadone is used to treat opioid use disorders, some may believe that the drug is safe. When methadone is abused, users are at risk of overdose and other adverse health reactions. Methadone should only be used under careful professional supervision.

Hydrocodone

“Hydrocodone is similar in potency to morphine and oxycodone. It is, by far, the most prescribed opioid medication in the United States. In 2017, approximately 83.6 million hydrocodone prescriptions were dispensed. Additionally, there are staggering rates of

hydrocodone diversion, street use, and polydrug abuse including drinking while under the influence of hydrocodone. In many instances of hydrocodone addiction, users will graduate to using stronger, more potent opioids.” (paxmemphis p.1)

Codeine

Codeine is commonly found in a prescription cough syrup that is used to reduce coughing. However, it can also be prescribed to treat mild to moderate pain when it comes in tablet form combined with Tylenol. Although it is weaker in potency than many other opioids, it still has a potential for abuse.

Meperidine

Meperidine, also known as Demerol, was the first synthetic opioid to hit the market. It is weaker than the previous opioids on this list, but it still has a potential for abuse. Even though meperidine isn't as potent as some opioids, physical dependence, and tolerance to the drug develops far quicker than some of the stronger opioids. As a result, it can be just as dangerous as the other opioids on the list.

Tramadol

Tramadol is sometimes dispensed under its brand name, Ultram. Tramadol is similar in potency to meperidine, but it is less dangerous because there is a lower risk of tolerance, physical dependence, and abuse. Even though it is the weakest opioid, it can still be abused and can lead to addiction.

Opioid Addiction During Pregnancy

Opioid use during pregnancy can be dangerous for the mother and her baby. Expectant mothers who use opioids during pregnancy should be aware of the risks that it can cause for the baby. When using drugs or opioids while pregnant, some of the risks that can happen include preterm birth, stillbirths, birth defects, and delayed fetal growth. “Opioid use during pregnancy can lead to neonatal abstinence syndrome (NAS) in some newborns. NAS is a group of conditions that can occur when newborns withdraw from certain substances, including opioids, that they were exposed to before birth.” Some of the signs for withdraws are tremors, seizures, increased sweating, and increased high pitch crying. Of course, all babies go through various levels of how bad their case is, which depends on the type of opioid their mother was using while pregnant, or how much is in their system. When exposed to opioids, some of the possibility of being born before thirty-seven weeks, delayed growth, be born with birth defects and stay in the hospital longer, even NICU.

Treatment for Pregnant Mothers Addicted to Opioids

Expectant mothers who are on prescribed pain medication or have an addictive history should talk to their doctor. Getting a plan to withdrawal from opioids early on to keep the baby safe is vital. Mothers should make sure to discuss with their doctor on the safest method to cease opioid consumption to ensure pregnancy complications such as preterm labor, fetal distress, or miscarriage do not occur.

Benefits of Treatment During Pregnancy

“Treatment with methadone or buprenorphine improves infant outcomes by stabilizing fetal levels of opioids, reducing repeated prenatal withdrawal. linking mothers to treatment for

infectious diseases (e.g., HIV, HBV, HCV), reducing likelihood of transmittal to the unborn baby, providing opportunity for better prenatal care improving long-term health outcomes for the mother and baby.”

Opioid Complications

When Opioids were made back in the 1990s by pharmaceuticals, they gave the impression that patients would not become addicted to prescription pain killers. Opioid overdose rates began to increase when healthcare providers started to heavily prescribe these pain prescriptions and they were abusing them. Opioids come from a poppy seed along with semisynthetic and synthetic properties similar that interact with the receptors in the brain.

Why Addiction and Overdose are Common with Opioids

“Nearly 841,000 people have died since 1999 from a drug overdose.¹ In 2019, 70,630 drug overdose deaths occurred in the United States. The age-adjusted rate of overdose deaths increased by over 4% from 2018 to 2019. (cdc.gov p.1)

Opioids mainly synthetic opioids are currently the main driver of drug overdose deaths. 72.9% of opioid-involved overdose deaths involve synthetic opioids. Opioids were involved in 49,860 overdose deaths in 2019. Drug overdose deaths involving psychostimulants such as methamphetamine are increasing with and without synthetic opioid involvement. (cdc.gov, p.1)

What Medicines Treat Opioid Misuse and Addiction

Methadone is a medication approved by the (FDA) to treat Opioid Use. It is also used for medication-assisted treatment (MAT), as well as for pain management. Methadone is used to

help individuals with their recovery and to try and live their everyday lives. Methadone is used with other intensive treatment plans to work along with other behavioral aspects for the individual.

Buprenorphine is one of the first medication to treat opioid disorders and that can be prescribed or dispensed in physician offices to seek treatment.” Buprenorphine is an opioid partial agonist. It produces effects such as euphoria or respiratory depression at low to moderate doses. With buprenorphine, however, these effects are weaker than full opioid agonists such as methadone and heroin.”

Naloxone is a medicine that rapidly reverses an opioid overdose. The medicine flows throughout the person’s body and then attaches to the receptors and reverses and blocks the effects of other opioids. If someone were to stop breathing or if it became shallow, giving Naloxone and help a person breath on their own again. One interesting fact about naloxone is, that it has no effect on someone who does not have opioids in their system.

How Physician Offices Played a Role in the Crisis

Hospitals and physician offices play a huge role when it comes to the opioid crisis. Hospitals are usually the first place that opioids are introduced. If you present to the Emergency room, and need a surgery, or present with pain, you will be given pain medicine. Physicians treat patients that come in for pain, which makes it hard for them to know if prescribing the prescription would lead into addiction for them. There are several people who suffer from chronic pain, and cancer and taking opioids are the best option for them to live happy, and in less pain.

Caring for Patients that Come to the Hospital

People tend to go to the emergency room because they feel they are hurting or in so much pain they can't handle it anymore. Typically, a nurse will come in, ask questions about symptoms and what is wrong with them. The evaluation then determines if the patient needs additional test, what right medication is needed for them as well. Most of the time, you will not walk in the ER and just get medicine or test right off the bat. There are a lot of hospitals that don't admit patients that just come in for withdraw or substance needs. Patients are only kept if they are trying to harm themselves or if there is another reasoning to why they need to be admitted other a substance abuse. For example, a person may go to the ER because they are having tooth pain and cannot afford to go to a dentist. The patient thinks that the ER will look at the tooth and prescribe them painkillers, which isn't true. Hospitals hardly do anything for patients with tooth pain. There are hospitals that will and can refer you to an outpatient therapy service. It typically is inpatient lasting multiple days, for people needing help with addiction. A lot of nurses and doctors are hesitant to prescribe anything regulated because the opioid crisis continues to strike.

Outpatient Treatment

Pinelands Recovery Center of Medford is in New Jersey's finest, most respected addiction treatment facilities. It is a 30-bed accommodations and 24-hour professional staff. The goal of Pinelands is to establish clear goals, talk about what your needs are. Continuing therapy and monitoring your goals is all the recovery plans. Pineland helps clients understand boundaries, a sober life, how to cope with emotions.

Outpatient behavioral treatment includes a wide variety of programs for patients who visit a behavioral health counselor on a regular schedule. Most of the programs involve individual or group drug counseling, or both. Treatment is sometimes intensive at first, where patients attend multiple outpatient sessions each week. After completing intensive treatment, patients transition to regular outpatient treatment, which meets less often and for fewer hours per week to help sustain their recovery.

These programs typically offer forms of behavioral therapy such as:

- *cognitive-behavioral therapy*, which helps patients recognize, avoid, and cope with the situations in which they are most likely to use drugs
- *multidimensional family therapy*—developed for adolescents with drug abuse problems as well as their families—which addresses a range of influences on their drug abuse patterns and is designed to improve overall family functioning
- *motivational interviewing*, which makes the most of people's readiness to change their behavior and enter treatment
- *motivational incentives* (contingency management), which uses positive reinforcement to encourage abstinence from drugs.

Inpatient or residential treatment can also be very effective, especially for those with more severe problems. Licensed residential treatment facilities offer 24-hour structured and intensive care, including safe housing and medical attention. Residential treatment facilities may use a variety of therapeutic approaches, and they are generally aimed at helping the patient live a drug-free, crime-free lifestyle after treatment. Examples of residential treatment settings include:

- *Therapeutic communities*, which are highly structured programs in which patients remain at a residence, typically for 6 to 12 months. The entire community, including treatment staff and those in recovery, act as key agents of change, influencing the patient's attitudes, understanding, and behaviors associated with drug use. Read more about therapeutic communities in the Therapeutic Communities Research Report.
- *Shorter-term residential treatment*, which typically focuses on detoxification as well as providing initial intensive counseling and preparation for treatment in a community-based setting.
- *Recovery housing*, which provides supervised, short-term housing for patients, often following other types of inpatient or residential treatment. Recovery housing can help people make the transition to an independent life—for example, helping them learn how to manage finances or seek employment, as well as connecting them to support services in the community.

Principles of Effective Treatment

According to the National Institute on Drug Abuse, based on scientific research since the mid-1970s, the following key principles should form the basis of any effective treatment program:

- Addiction is a complex but treatable disease that affects brain function and behavior.
- No single treatment is right for everyone.
- People need to have quick access to treatment.
- Effective treatment addresses all of the patient's needs, not just his or her drug use.
- Staying in treatment long enough is critical.
- Counseling and other behavioral therapies are the most used forms of treatment.

- Medications are often an important part of treatment, especially when combined with behavioral therapies.
- Treatment plans must be reviewed often and modified to fit the patient's changing needs.
- Treatment should address other possible mental disorders.
- Medically assisted detoxification is only the first stage of treatment.
- Treatment doesn't need to be voluntary to be effective.
- Drug use during treatment must be monitored continuously.
- Treatment programs should test patients for HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases as well as teach them about steps they can take to reduce their risk of these illnesses.

Relapse Prevention

Patients can use medications to help re-establish normal brain function and decrease cravings. Medications are available for treatment of opioids, tobacco, and alcohol addiction. Scientists are developing other medications to treat stimulant and cannabis addiction. People who use more than one drug, which is very common, need treatment for all the substances they use.

Methadone, buprenorphine, and naltrexone are used to treat opioid addiction. Acting on the same targets in the brain as heroin and morphine, methadone and buprenorphine suppress withdrawal symptoms and relieve cravings. Naltrexone blocks the effects of opioids at their receptor sites in the brain and should be used only in patients who have already been detoxified.

All medications help patients reduce drug seeking and related criminal behavior and help them become more open to behavioral treatments. A NIDA study found that once treatment is initiated, both a buprenorphine/naloxone combination and an extended-release naltrexone formulation are similarly effective in treating opioid addiction. Because full detoxification is necessary for treatment with naloxone, initiating treatment among active users was difficult, but once detoxification was complete, both medications had similar effectiveness. (nida.nih, p.1)

Is Treatment Different for Criminal Justice Populations

Scientific research since the mid-1970s shows that drug abuse treatment can help many drug-using offenders change their attitudes, beliefs, and behaviors towards drug abuse; avoid relapse; and successfully remove themselves from a life of substance abuse and crime. Many of the principles of treating drug addiction are similar for people within the criminal justice system as for those in the general population. However, many offenders don't have access to the types of services they need. Treatment that is of poor quality or is not well suited to the needs of offenders may not be effective at reducing drug use and criminal behavior. In addition to the general principles of treatment, some considerations specific to offenders include the following:

- Treatment should include development of specific cognitive skills to help the offender adjust attitudes and beliefs that lead to drug abuse and crime, such as feeling entitled to have things one's own way or not understanding the consequences of one's behavior. This includes skills related to thinking, understanding, learning, and remembering.
- Treatment planning should include tailored services within the correctional facility as well as transition to community-based treatment after release.

- Ongoing coordination between treatment providers and courts or parole and probation officers is important in addressing the complex needs of offenders re-entering society.

Who is at Most Risk of Addiction

Anyone that takes opioids are at risk for addiction. When you decide to take opioids in different methods other than a prescribed scrip, that's when it becomes even more at risk because you can snort, inject and even crush the pill. When you mix different opioids, the effect can lead to a bad outcome, for instance, if you take a long-extended pill plus other opioids this can cause too many chemicals leading into the body causing an overdose. One thing to remember is that people that buy opioids off the street are not always sold the correct thing and can be mixed with anything. "The length of time you use prescribed opioids also plays a role. Researchers have found that taking opioid medications for more than a few days increases your risk of long-term use, which increases your risk of addiction. The odds you'll still be on opioids a year after starting a short course increase after only five days on opioids. A few additional factors — genetic, psychological and environmental — play a role in addiction, which can happen quickly or after many years of opioid use." (Mayo clinic, opioid risk factors, p. 1)

Some of the known risk factors for opioid misuse and abuse are listed below:

- Poverty
- Unemployment
- Family history of substance abuse
- Personal history of substance abuse
- Young age
- History of criminal activity or legal problems including DUIs
- Regular contact with high-risk people or high-risk environments
- Problems with past employers, family members and friends (mental disorder)

- Risk-taking or thrill-seeking behavior
- Heavy tobacco use
- History of severe depression or anxiety
- Stressful circumstances
- Prior drug or alcohol rehabilitation.

Steps to Prevent Opioid Addiction

Opioids are never safe, but when taken for fewer days to manage acute pain it decreases the chance of addiction. You should always want and take the smallest dosage when it comes to painkillers, this will help with the dependency of “needing them”. One goal you should have is to think of the long-term treatment plan when it comes to having chronic pain. Continuously taking opioids can leave you with a shorter life span instead of being able to enjoy it.

Signs and Symptoms of an Overdose

If someone is showing signs of an overdose, they would appear to be unconscious, or unresponsive, they could have cold or sweaty skin, and have discolored lips or nails. If you feel that a person is overdosing, you can lightly shake them or shout at them to get their attention. If you do not get a response or sign from them, you should call 911 immediately. If you have the medication for naloxone, it can rapidly reverse the effects of an overdose. If you notice that the person is barely breathing or if the person’s skin color is blue or have blue lips, perform mouth-to-mouth rescue breathing by tilting the head back and lifting the chin until the mouth opens, clearing the airway. You will want to perform CPR until the person starts to breath or EMS comes to relieve you. If a person is conscious at some point but it is vomiting, you would want to place the person on their side, so they don’t choke on their vomit while laying on their back.

Signs and Symptoms of Withdrawal

Opioid withdrawal symptoms can be severe for individuals depending on how dependent they are on opioids or drugs. Opioid receptors in our bodies such as our brain, gastrointestinal tract and spinal cords attach to the opioids causing its own effects. Being that opioids affect the brain stem which controls all our functions like breathing, eating, coughing and your heartbeat, opioids may only act on certain areas of your body or brain. Opioids work to relieve pain by sending messages from the brain to the rest of the body.

When you take opioid medication daily, or for a long period of time your body becomes immune to the effects. Eventually your body will need more of the drug to get the feeling of relief from the drug. The longer you take the drug, the more of a risk it is for your brain and body when it comes to functioning. The receptors become dependent on the drug to live day to day life. One way to know if you are becoming dependent on the substance is if you become sick when you stop taking the opioid medication. Most of the time you are unaware that you are even dependent on the drug and think that you could have the flu or a cold.

Rethinking Addiction

Addiction is challenging when it comes to understanding someone's addictive behaviors. When someone consumes an opioid drug the first time it is usually voluntary, and then after that with repeated use, an individual cannot do things successfully when it comes to living, work and activities. 'A person is addicted to a specified behavior if they have demonstrated repeated and continuing failures to refrain from or radically reduce the behavior despite prior resolutions to do so.' The resolutions in question can be more precisely defined by adopting Richard Holton's

phrase, ‘contrary-inclination-defeating intentions. That is, the resolution is made ‘in the attempt to overcome contrary desires that one believes one will have when the time comes to act’ (Holton, 2009, p.77).

There are many things that contribute to drug and alcohol addiction. You do not know a person’s genetic and environmental influences, or what their mental health conditions are like. “There are four main stages of addiction: experimentation, regular use, high-risk use, and addiction or dependency. Not everyone in the first two stages of this process will develop an addiction, but individuals within the third stage are extremely likely to progress into full-blown addicts.”

Stage One- Experimentation

One of the first steps is understanding addiction. It is recognizing that the first time someone consumes drugs or alcohol it can produce few or no consequences at first. “Experimentation, defined as the voluntary use of drugs without experiencing any negative social or legal consequences, is often accepted or even encouraged, particularly among young adults.” When a person is under the influence on an opioid drug, they are not thinking of anything besides of getting high or drunk. They usually also do not know when enough, or how much is they truly have consumed.

Stage Two- Regular Use

Stage two represents a stump in the road for many people. While some people can use drugs and alcohol and still operate daily, it does put a risk on them developing a true addiction. The more you use substances and repeatedly do them, it becomes a routine for you, this is something you look forward too when you wake up, or to function or get through something you

have planned for the day. It then becomes something that you are eager to do, and must do it until you get that “high.” A lot of people think that they can stop whenever they want, or they are not dependent on the opioids but some people during this time do show guilt, but do not know how to control their feelings.

Stage Three-High-Risk Use

The difference between someone that uses controlled medicine and someone that just abuses them daily is going to be hard to determine, but when it comes to someone using daily, that needs it to function or go throughout the day that is when the abusing takes on another toll for them. Not only do they start to crave the drive they need, but that is all they tend to think about, or how they are going to get the product. The person usually will start to think they can work under the influence, they think they can drive and not have any risks on the road. If someone has kids, they tend to drift their time away from term as they are high or looking for the next high, they can get.

Stage Four-Addiction

Once you have entered addiction and complete dependency upon the substance, that is when you can say you have an addiction. Typically, when you are that dependent on the substance, and you go without, your body is with drawling from the medicine wearing off. Your body can have shaken, sweats, and other frantic behavior. “This is the stage that even if someone tells you that your life depends on stopping your behavior, you can’t.”

Methods Used to Slow the Crisis

In response to the opioid crisis, the U.S. Department of Health and Human Services is focusing its efforts on five major priorities (nida.nih.gov, p 1)

- Improving access to treatment and recovery services
- promoting use of overdose-reversing drugs
- strengthening our understanding of the epidemic through better public health surveillance
- providing support for cutting-edge research on pain and addiction
- advancing better practices for pain management

The National Institutes of Health (NIH), a component of HHS, is the nation's leading medical research agency helping solve the opioid crisis via discovering new and better ways to prevent opioid misuse, treat opioid use disorders, and manage pain. In the summer of 2017, NIH met with pharmaceutical companies and academic research centers to discuss.

Rethinking Treatment and Recovery

Recovery is an ongoing process that can last your whole life. If you chose to stop taking drugs today, tomorrow you are in recovery. If you gave up drugs ten years ago, today you are in recovery. I think it is awesome when people get their sobriety and maintain sober for over decades. Something that a lot of people don't know is that it takes a lot for someone who is in active recovery maintain the recovery. They have a full range of emotions on how to adapt around certain things, like going to a bar, but not drinking. Hanging out with old friends that use opioids. The process can take a while, which is okay. Everyone should be at their own pace. Some feel overwhelmed and lead towards the only thing that use to make them at peace, which is

opioids. Maintaining your recovery is about understanding your problem, then reaching out for help, maintaining the help, and talking about your feelings truly helps.

Health Consequences

Majority of people who are addicted to Opioids or other substances look tired, or if they haven't bathed. Some could even look hyper or more active than usual. One common issue when it comes to people using substances with needles, is that they are not sterilizing the needle, they are using it over and over, or with other people not knowing what type of infections they have, for instance HIV, HEP B, HEP C.

Hepatitis B is a liver infection caused by the hepatitis B virus. HBV infection causes inflammation of the liver and can affect the functions. The best way to prevent the infection is to get vaccinated. Hepatitis B is transmitted when you encounter another person's body fluids. It can be transmitted by blood, semen, or someone that is already infected. You can also get this by using syringes, having sex, etc. Hepatitis B can be long term for some causing chronic infection. "Chronic hepatitis B can lead to cirrhosis, liver cancer, liver failure, and premature death." Although there is no actual cure for Hep B, there is medicines that help treat it.

GI Issues

Long-term opioid use can lead to GI problems like recurrent or chronic constipation, a widely recognized, very common side effect. Studies have shown that up to 45% of people taking opioids therapeutically report experiencing constipation, with some having constipation so severe that they need to reduce their dosage or stop using opioids. In serious cases, bowel obstruction can result, a potentially fatal complication that may require hospitalization. Other opioid-related GI complaints include nausea, vomiting, stomach cramps, and bloating. Opioid

users who have GI symptoms tend to have many more ER visits, hospital admissions, and longer hospital stays than those without GI symptoms. The GI symptoms associated with opioid use also seem to have a mental health impact on users. Chronic constipation has been shown to increase an opioid user's risk of psychological distress and depression. (adcare, p.1)

Cardiovascular system

Your cardiovascular system could also be negatively affected by long-term opioid use. One study published in the American Heart Association Journal *Circulation* found that opioid use is a risk factor for heart rhythm abnormalities such as atrial fibrillation, a condition that can lead to serious adverse cardiac events, such as stroke, heart failure, and death. Research has also shown a potential connection between prescription opioid use and an increased risk of coronary heart disease and cardiovascular disease in women. Among injection opioid users, bloodborne bacterial infections that result from unsanitary intravenous needle use can lead to endocarditis, an infection of the inner lining of the heart that can be fatal when left untreated. (adcare, p.2)

Reproductive Health

Long-term opioid use may negatively impact the reproductive systems of both men and women. Some studies show that for women, opioid use may be associated with decreased fertility as well as an increased risk of pregnancy loss and other pregnancy complications such as placental abruption, and preterm birth. For men, long-term opioid use may affect testosterone production and decrease the quality and quantity of the sperm. Babies born to mothers who use opioids during pregnancy may suffer from neonatal abstinence syndrome. They are also at risk of having longer post-birth hospital stays, being re-hospitalized within the first month of life, being born with birth defects, and having developmental delays. (adcare, p.2)

Facts about Opioids

There is a Myth that the more opioids you take the better they work. Over time, people build up a tolerance to pain medicine. Taking too much pain medicine can cause your high to only last so long and then you consume more to maintain the high which can cause more pain. Everyone is at risk when it comes to taking opioids, whether you are prescribed or not, the more you take them, the more addicted and dependent you are on them. Risk can be passed down from history family, so when a doctor is asking about previous history therefore, so they can get a plan set up to best meet your needs.

There are long term consequences that can lead from your opioid addiction is not the only risk associated with long term use of opioid medications. You can develop liver and kidney disease; you can lose weight. Your hormones can change. Opioids can be effective when they are used for a short span of time to relieve pain. Your doctor should be getting a treatment plan set up for you, regarding seeing what is causing your pain to begin with and how it can be treated with the correct medicine.

How Addiction Affects Younger Children

According to Psychology Today, 1 in 5 children grows up in a home where a parent abuses drugs or alcohol. Witnessing the trauma of a parent suffering from addiction at a young age has long-term effects on the child. Children who grow up seeing a parent addicted to drugs or alcohol are more likely to develop SUDs in their adulthood. They are also 3 times more likely to be neglected or physically and/or sexually abused. Seeing a parent on drugs often invokes distressing emotions which not only create delays in learning and development but can also lead to pronged mental and emotional disorders. ((addictioncenter, p.1)

Since children are still developing their personalities and are vulnerable to external influences, they run the risk of repeating such behaviors. Children may be exposed to aggression or violent behavior due to a parent's drinking. Arguments between parents may be normal, causing the child emotional distress as they witness family members fighting.

Early exposure to a home divided by drug use can cause a child to feel emotionally and physically neglected and unsafe. As a result, they can become more mentally and emotionally unstable. Children may develop extreme guilt and self-blame for a parent's substance abuse. They may develop feelings of unworthiness or develop dysfunctional attachments in their adulthood. In extreme cases, children can be removed from the home and placed in foster care. (addictioncenter, p.1)

The negative consequences of having one or both parents with a substance use disorder is very difficult for children to establish trusting relationships with people, to being overly emotionally responsible in relationships and taking on adult roles much younger than developmentally appropriate. An even more severe impact can begin in utero with maternal substance abuse that causes damage to the growing fetus resulting in birth defects, fetal alcohol syndrome, and/or fetal alcohol effects. These difficulties may cause disabilities that require early intervention and often ongoing and social and mental health services.

According to the U.S. Department of Health and Human Services, A parent with a SUD is three times more likely to physically or sexually abuse their child. The sequelae of this is that these children are more than 50% more likely to be arrested as juveniles, and 40% more likely to commit a violent crime.

Talking to Your Kids About Drugs

A lot of kids that grow up around drugs, are more than likely to be introduced to them at a young age. In this generation, drugs are all around whether you parent them the best or not, they are going to try things on their own. Talking to them about the dangers of what can happen if they take opioids or consume too much alcohol is important. Reminding them daily or even here and there will continue to be better knowledge for them. Kids are prone to trying new things to make them look cool, but in reality, they are harming themselves and possibly other people. When discussing drugs with them, use your own words. Make them understand in a way that you do. “Just saying no” won’t work, you will have to level with them which I think is better in the long run. You should also explain to them that they shouldn’t take anything they are not aware of, due to that it could be a resembled opioid, but could be the wrong one.

Statistical Things We Know About Opioids

- Roughly 21 to 29 percent of patients prescribed opioids for chronic pain misuse them.
- Between 8 and 12 percent of people using an opioid for chronic pain develop an opioid use disorder.
- An estimated 4 to 6 percent who misuse prescription opioids transition to heroin.
- About 80 percent of people who use heroin first misused prescription opioids.
- Among 38 states with prescription opioid overdose death data, 17 states saw a decline between 2017-2018; none experienced a significant increase.

- Likelihood of developing an opioid use disorder depends on many factors, including length of time a person is prescribed to take opioids for acute pain, and length of time that people continue taking opioids (whether as prescribed, or misused).

(nih.gov p.1)

The Impact of Opioid Use on Dentistry

The oral consequences of opioid drug use are commonly attributed to personal neglect of general health and financial constraint. These factors are compounded by the increasingly recognized range of physical effects exerted by opioid drugs. The dental management of opioid drug dependents is further complicated by a variety of infections and behavioral modifications commonly associated with opioid use. Adequate strategies for the oral care of opioid users need to take cognizance of the broad medical issues for these people along with an appropriate personal approach. The dental management of opioid dependents is often complex. Not only does this group of individuals suffer high rates of various oral diseases, but they also demonstrate behavioral and pathological changes that greatly impact upon their dental treatment. As such, the dental professional needs to be aware of the wider issues associated with these patients in order to manage them successfully. (Australian Dental Journal, p.2)

Periodontal disease is also frequently seen in drug dependents. The pattern is typically one of adult periodontitis, although acute necrotizing gingivitis has also been reported. It seems that the effects on the periodontium due to a high rate of plaque accumulation, resulting from neglect and xerostomia, may be exacerbated by the immuno-suppressive effects of opioids and potentially altered microbial profiles. (Australian Dental Journal, p.3)

When treating drug dependents, the dentist needs to know these individuals might be carrying infections that have implications for dental treatment. Even though a thorough medical history may not reveal the presence of such infections, standard precautions must be observed when treating opioid addicts due to the high prevalence of such infectious diseases in this group of patients. (Australian Dental Journal, p.4)

Conclusion

Opioids are only going to continue to rise, and more people will become addicted. Fentanyl, Meth, and Heroin are on the rise and increasingly getting worse in the US. Pregnant women are becoming addicted to opioids causing developmental delays in their babies. As stated above, Prescription opioids are often used to relax your body and help relieve your pain level. Opioids can make a person feel “high” or relaxed to stimulate the feeling of not feeling anything. This is when opioids become dangerous because people become addicted to the feeling of what they can do for them. As stated before, addiction can come from personal use, or from growing up and seeing it be done. A lot of mental health and environments take play when it comes to someone having a substance abuse or addiction disorder. I learned a lot from this research paper and hope to spread awareness to others that are struggling or don't have knowledge on opioids. Learning about the different types of opioids, how they operate in the brain and body became interesting as I have struggled understanding this.

References

Opioids. (2022, February 17). National Institute on Drug Abuse. <https://nida.nih.gov/drug-topics/opioids>.

This article is about what an Opioid is. Opioids are a class of drugs that include the illegal heroin, synthetic opioids such as fentanyl, and pain relievers by prescription. Some of the common names are oxycodone, hydrocodone, morphine, and Vicodin.

Opioids. (2022, February 17). National Institute on Drug Abuse. <https://nida.nih.gov/drug-topics/opioids>.

Understanding the Opioid overdose epidemic and how the drug overdoses have increased over the last few years. There were three waves of Opioid Overdoes. 1. The increase of prescribing Opioids. 2. Increase in overdoses. 3. Increases in Opioid overdoses in synthetic drugs.

Effective Treatments for Opioid Addiction. (2021, September 9). National Institute on Drug Abuse. <https://nida.nih.gov/publications/effective-treatments-opioid-addiction>.

This article discusses the overdoses and how there are treatment plans and medications that can help. Medications should be correlated with the persons needs, meeting those. It talks about how to improve medications over time.

Effective Treatments for Opioid Addiction. (2021, September 9). National Institute on Drug Abuse. <https://nida.nih.gov/publications/effective-treatments-opioid-addiction>.

The article talks about recommendations for primary care clinicians who are prescribing Opioids for chronic pain. The guideline addresses 1) when to initiate or continue opioids for chronic pain; 2) opioid selection, dosage, duration, follow-up, and discontinuation; and 3) assessing risk and addressing harms of opioid use.

Effective Treatments for Opioid Addiction. (2021, September 9). National Institute on Drug Abuse. <https://nida.nih.gov/publications/effective-treatments-opioid-addiction>

The physical craving the body develops for opioids is profound and unrelenting. Add extreme brainwashing, psychological manipulation, and physical trauma and you end up with someone who is trapped in a cycle. The power of addiction combined with the coercion of a trafficker can be a lethal combination. We have seen a number of these patients die from overdose, suicide, and infections.

What is the U.S. Opioid Epidemic? (2021, October 27). Hhs.Gov. <https://www.hhs.gov/opioids/about-the-epidemic/index.html>

In the late 1990s, pharmaceutical companies reassured the medical community that patients would not become addicted to opioid pain relievers and healthcare providers began to prescribe them at greater rates. Increased prescription of opioid medications led to widespread misuse of both prescription and non-prescription opioids before it became clear that these medications could indeed be highly addictive.

Withdrawal Management. (2009). Withdrawal Management. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2728221/>

Withdrawal management (WM) refers to the medical and psychological care of patients who are experiencing withdrawal symptoms as a result of ceasing or reducing use of their drug of dependence. It is very common for people who complete withdrawal management to relapse to drug use. It is unrealistic to think that withdrawal management will lead to sustained abstinence. Rather, withdrawal management is an important first step before a patient commences psychosocial treatment.

Addressing the Opioid Crisis. (2021, January 5). United States Department of State. <https://www.state.gov/addressing-the-opioid-crisis/>

A confluence of dangerous new trends in the transnational production, sales, and trafficking of illicit drugs has contributed to this tragic climb in deaths. These trends are fostering the increased use of heroin and heroin laced with synthetic opioids like fentanyl, often without the user knowing it. Fentanyl and its analogues, sourced largely from overseas, can be fifty to one hundred times more potent than heroin, with as little as two milligrams being potentially lethal.

American Medical Association. (2021, September 21). Physicians' progress toward ending the nation's drug overdose epidemic. <https://www.ama-assn.org/delivering-care/overdose-epidemic/physicians-progress-toward-ending-nation-s-drug-overdose-epidemic>

Physicians and other health care professionals have reduced opioid prescribing in every state for 10 consecutive years. They have increased the use of state prescription drug monitoring programs (PDMPs) in every state for the past five years. Despite these efforts, drug-related mortality continues to rise.

New Opioid Drugs: More Potent, More Risky. (2021, December 8). American Addiction Centers. <https://americanaddictioncenters.org/opiates/new-opioid>

For many years, the opioid drugs most people knew about were heroin and commonly prescribed painkillers, such as oxycodone, hydrocodone, codeine, and morphine. The opioid crisis has resulted in drug manufacturers introducing new formulations of opioids designed to deter abuse. Today, opioid overdose deaths are being increasingly driven by the presence of potentially dangerous synthetic opioids, including fentanyl and closely related fentanyl-derived drugs, such as carfentanil — sometimes diverted from legal sources but also cheaply manufactured in illicit laboratories for inclusion in the nation's supply of heroin, cocaine, methamphetamine, ecstasy and counterfeit pharmaceuticals.

Hilliard, J., & Parisi, T. (2021, December 17). Gambling Addiction: Get Help Today. Addiction Center. <https://www.addictioncenter.com/drugs/gambling-addiction/#:%7E:text=Gambling%20addiction%20is%20the%20uncontrollable,common%20impulse%20control%20disorder%20worldwide>.

This website talks about gambling addiction, what gambling addiction even is. It also talks about how it affects your brain, your loved ones and how you can become in debt financially.

Understanding the Epidemic | Drug Overdose | CDC Injury Center. (2021, March 17). <https://www.scribbr.com/apa-citation-generator/new/webpage/>. <https://www.cdc.gov/drugoverdose/epidemic/index.html>

This article discusses the opioid epidemic and how it played a role into society. It talks about how opioids began, what the CDC is going to do in regards to the pandemic. The article talks about how the opioid crisis came in three waves.

Rethinking addiction | The Psychologist. (2018, January 26). Rethinking Addiction. <https://thepsychologist.bps.org.uk/volume-2018/january-2018/rethinking-addiction>

This article discusses the thinking of addiction, and how it plays a role into seeing if addiction is an actual disease or not.

Hydromorphone (Oral Route). (2022, April 12). <https://www.mayoclinic.org/drugs-supplements/hydromorphone-oral-route/description/drg-20074171>

This article talks about how Hydromorphone should not be used for short term pain. Hydromorphone oral liquid and tablets are used to relieve pain. The hydromorphone extended-release capsules and extended-release tablets are used to relieve pain in opioid-tolerant patients severe enough to require around-the-clock pain relief for a long period of time.

Heroin DrugFacts. (2022, March 22). National Institute on Drug Abuse. <https://nida.nih.gov/publications/drugfacts/heroin>

This article talks about what heroin is, how it is made, and how people use it. It talks about how other similar opioids are to heroin. Short- and long-term effects of usage.

Peri, C. (2014, March 17). Heroin. WebMD. <https://www.webmd.com/mental-health/addiction/heroin-use>

This article talks about how heroin is abused, used, and what signs and symptoms come with the usage. It also discusses the addiction and withdrawal symptoms of heroin use. The article goes over treatment plans and medicines for individuals.

Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: from theory to practice. *Social work in public health*, 28(3-4), 194–205. <https://doi.org/10.1080/19371918.2013.759005>

This article talks about how kids are affected with substance abuse disorder, how they grow up having emotional attachments and often led to their own substance abuse.

Please Wait. . . | Cloudflare. (1996, July 1). Nps Medicinewise. <https://www.nps.org.au/australian-prescriber/articles/opioids-mechanisms-of-action>

This article discusses how opioids work in the body with neurons and receptors. It talks about the tolerance and dependence of opioids and the pain pathways.

NIDA. 2019, January 17. Treatment Approaches for Drug Addiction DrugFacts. Retrieved from <https://nida.nih.gov/publications/drugfacts/treatment-approaches-drug-addiction> on 2022, April 28

In this article, it discusses the type of treatment approach there are for drug addictions, and how effective the treatments can be. It discusses treatment for criminal justice, outpatient, and inpatient therapy.

Butanis, B. (2018, August 9). The Science of Addiction. The Science of Addiction. <https://www.hopkinsmedicine.org/opioids/science-of-addiction.html>

This article talks about the science of addiction, how addiction works, can it be treated and if opioids can be taken appropriately.

Opioid Misuse and Addiction. (2018, April 18). Opioid Misuse and Addiction. <https://medlineplus.gov/opioidmisuseandaddiction.html>

This article discusses the health consequences of opioid use and how if you misuse it, it can lead to GI issues, constipation, addiction, and cardiovascular issues.

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.597.9118&rep=rep1&type=pdf>

- This article talks about the impact of dental management. It talks about mental health, consequences, oral usage, how dependent users can be. The dental management of opioid dependents is often complex. Not only does this group of individuals suffer high rates of various oral diseases, they also demonstrate behavioral and pathological changes that greatly impact upon their dental treatment.

