Case Report

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Substance Abuse Disorder Patient Case

Margarita Israilova*

Health Sciences Department, LaGuardia Community College, USA

***Corresponding author:**
Margarita Israilova

misrailova@lagcc.cuny.edu

Assistant Professor, Department of Health Sciences, LaGuardia Community College, USA.

Tel: 718-482-6078

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Abstract

Substance abuse has been increasing among the younger population, especially among adolescents in the United States. In Mattson, the number of emergency room visits and deaths related to substance abuse overdoses have increased to 300 emergency room visits per day. Substance abuse is defined as maladaptive patterns of behavior that involves dependency on anything that an individual may ingest that alters mood, cognitive status, or a behavior pattern. The article presents a case study demonstrating the chronic opioid abuse by a 25-year old male who was previously diagnosed with depression and anxiety and presents with withdrawal symptoms to the detoxification center for treatment. The individual was admitted for five days detoxification unit with plan to continue with the additional 28-day in substance abuse rehabilitation program, located in New York. Upon discharge from inpatient substance abuse care facility, patients are offered outpatient treatment programs that suits best for the individual person. All the manifestation symptoms are related to the substance abuse.

Keywords: Substance abuse; Drugs; Alcohol; Substance abuse risk population

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Introduction

Medical diagnosis and population substance abuse problem

According to Volkow and Collins [1], there is a rapidly-developing drug addiction and drug overdose epidemic in the United States. Substance abuse and overdose is an ongoing major issue that contributes to over 90 deaths per day in the American population. Substance abuse, or drug addiction, is a disease that affects the human brain by causing harmful behavioral changes such as increased irritability, hostility, feeling drowsy or sleepy during the daytime and failing to handle day-to-day responsibilities such as work and/or school. The individuals can become addicted to illegal drugs as equally as they can to pharmaceutical or prescribed drugs [2]. The majority of the lethal drug complications are related to drug overdoses. The drug overdose mortalities include the use of synthetic opioids such as fentanyl and carfentanil. Unlike morphine byproduct heroin, fentanyl and carfentanil lead to lethal overdoses much faster than heroin. Fentanyl and carfentanil are added into the street drugs heroin, cocaine, and marijuana in order to amplify the effect of other drugs. Fentanyl is 50 times and carfentanil is 5000 times more potent than heroin [1].

Substance abuse disorders can affect females and males of any race, ethnicity, socioeconomic and financial statuses.

Case Presentation

A 25-year-old Caucasian male presents to the outpatient detoxification and rehabilitation facility, for opioid and alcohol detoxification. For the past two weeks, this patient has being using 15 bags of heroin intravenously, two 48-ounces cans of beer, and has inhaled one hundred dollars' worth of cocaine per day. According to the patient, the main reason for his seeking medical attention is to avoid going to jail. The patient has a history of law violations and has been monitored by a probation officer once a week. The probation officer worked with the patient and his family to arrange the probation treatment program instead of jail. The patient voluntarily agreed to be evaluated for admission to the outpatient treatment facility.

History

Mr. W is a 25-year-old single male who was referred for treatment by his probation officer. Mr. W is currently unemployed, and lives with his friends in a different location each day because his relationship with his family deteriorated due to addiction, he is no longer welcomed in the family house. According to Mr. W, he is not homeless "I always find a place to crash for a night". Mr. W states that he has been using marijuana from age 15 but it is not his drug of choice any longer. He was introduced to heroin by

his best friend about five year's age during very stressful times in his undergraduate school. He states that his parents and two sisters are aware of his addiction problems and do not support him at all. However, his grandmother understands him more than anyone, and supports him financially in order to prevent him from stealing. Mr. W states that "If you do not admit me today, I will go and get high, and I do not care what happens to me after."

History of present illness

Mr. W presents for opioid and alcohol detoxification and rehabilitation. He has no past medical history or any hospitalizations for medical conditions. However, he states that he was found unconscious by his mother in August 2016, and was hospitalized at Hospital due to a heroin overdose. He left the hospital against medical advice after two days of admission. He denies any history of head injury, trauma, asthma, hypertension, diabetes mellitus, or seizures. He is not on any prescribed medications. In addition, he denies any history of food, drug or latex allergies. Mr. W also denies any surgical history.

Psychiatric history

Mr. reports that he has struggled with severe anxiety and mild depression from an early adolescent age. He stated that he cannot remember the time when he was free of anxiety without using some kind of drugs. According to the patient, he was never hospitalized for anxiety or depression. However, he states that he did have suicidal ideations in the past, but not suicidal attempts. He denies any history of self-inflicted cuts or injuries. He has been prescribed benzodiazepine (Xanax) a medication for anxiety and seroquel, antipsychotic (an atypical type for depression, but stopped taking both medications two years ago. "I am not crazy and don't want to be hooked on it." Currently he is not under either a psychologist's or psychiatrist's care and does not take any psychiatric medication.

Review of systems

Mr. W reports that he was not feeling well, because he took his last bag of heroin at five in the morning. He denied recent visual changes, eye pain, discharge or inflammation. Denies a history of shortness of breath, wheezing, chest pain, or chest palpitations or arrhythmia. Mr. W states that he is very nauseous and had diarrhea in the morning, but denies abdominal pain. Mr. W is very restless, states that he has pain in his back, rated five out of 10 and just feels uncomfortable sitting in the chair although he denies a history of joint disease. Denies skin rash, moles, or changes in skin pigmentation. Denies any urinary incontinence, urgency or frequency. However, he states that his appetite has decreased during the past year and has been constipated for the past week. Denies use of any over-the-counter medications for his constipation.

Physical exam

Well developed and nourished, slightly disheveled White male. Patient is alert and oriented to person, place, time and situation. Easily irritable, angry and very talkative. Vital signs are: BP 130/88 (left arm, sitting position) HR 104 RR 22 Temp. 98.8 Fahrenheit. Normocephalic, atraumatic, short hair and symmetric flushed face. Eyes: pupils are constricted bilateral, round, reactive to light and accommodation, sclera is red and teary. Ears with normal ear canal and tympanic membrane. Runny nose no erythema of nostrils and normal septum. Dry oral mucous membranes, poor dentations, and missing back tooth. Neck supple with midline trachea and no lymphadenopathy or jugular vein distention. Heart rate is regular but mild tachycardia (104), no murmurs, rubs or gallops, bilateral dorsalis pedis pulses 2+. Anterior and posterior lungs sounds are clear to auscultation bilateral, no wheezing, crackles or rhonchi. Bilateral upper extremities with multiple tattoos and fresh needle track marks in the antecubital area and popliteal space in the lower extremities. Bilateral hand tremors with extended arms, no edema noted on upper or lower extremities. Bilateral feet with dry, cracking and peeling skin, patient states that it is very itch at times. Bilateral toenails and fingernails with in normal limits, no cyanosis or clubbing of nails noted. In general, Mr. W is able to make his needs clear, however his speech is very rapid, and his pupils are constricted/pinpoint (1 mm).

Diagnostic tests

The diagnostic tests of urine toxicology and breathalyzer test for alcohol are usually performed by nurses during the initial assessment, prior to examination of the patients by physicians or the nurse practitioners. The urine toxicology is routinely collected in all patients prior to admission to the detoxication unit in order to establish substances use. The breathalyzer test measures the amount of alcohol in the patient's breath. Depending on the results of urine toxicology and breathalyzer patients are treated accordingly. After the nursing assessment, each patient is examined by a healthcare provider who prescribes routine blood work such as Complete Blood Count (CBC), Complete Metabolic Panel (CMP), Rapid Plasma Reagin (RPR) for syphilis and urine analysis. Patients are not admitted to the detoxication or rehabilitation units if they have abnormal blood test results, such as severe anemia, electrolytes imbalance, and abnormal blood count. Furthermore, patients with chronic medical conditions and /or mental health history are required to have a medical and/or psychiatric clearance in order to be admitted to the detoxication or rehabilitation facility. In addition, each admitted patient is tested for tuberculosis (TB) or a chest x-ray is ordered if the patient has a history of a positive tuberculin skin test in the past. According to National Institute on Drug Abuse [3], individuals who use illicit drugs are at high risk for developing active, communicative, and sexual transmitted diseases such as TB, hepatitis C, syphilis and human immunodeficiency virus (HIV).

Diagnosis

The medical diagnosis is one of the important step in order to direct the course of treatment for the addict. Each illicit drug withdrawal has a set of treatment protocols. For example, opioid abuse dependence with withdrawal diagnosis is treated with methadone or suboxone, five to seven days depending on the urine toxicology result, and the amount of opioid use reported by the addict [4]. However, a person with the diagnosis of, Alcohol dependence with withdrawal, does not need to have a positive breathalyzer test in order to be treated with Librium or Ativan.

Daily alcohol abuse reported by the patient and clinical Institute Withdrawal Assessment (CIWA) score, is sufficient enough to start the alcohol treatment protocol [5].

Review of the Literature

According to the Substance Abuse and Mental Health Services Administration [6], substance abuse among individuals aged 12 years and older continues to be a national concern. The SAMHSA 2016 report states that the number of heroin users in 2016, (475,000) demonstrates the highest heroin use when compared to the 2002 to 2013 statistical data. In addition, the 2016 SAMHSA report demonstrated that marijuana is the widest gateway drug used to progress to other substances, such as alcohol, cocaine, heroin, among 12 years and older [7]. In addition, over prescriptions of controlled substances is drastically escalated, not just among pain-management specialists but among different medical providers. For example, United States for Non-Dependence Reports demonstrates that Alabama was the highest opioid prescribed state in 2016 and 11.7 billion opioid pills were prescribed nationwide [8]. The Centers for Disease Control and Prevention (CDC) [9] report states that the opioid medication prescription to the general population by physicians had drastically risen in 2006, reaching a record of 72.4 opioid prescriptions per 100 individuals. But by 2016, the amount of opioid prescriptions dropped to 66.5 per 100 people [9]. However, the deaths related to prescription drug-abuse is still overwhelming.

Findings of literature review

According to the literature review, the highest prevalence of the substance abuse is found among adolescents, aged 12 years and older in the areas of: patterns of drug use, the sequence of drug use progression and treatment approaches and outcomes. The most common initial substance that is abused in the given population is cannabis (marijuana) and ethanol (alcohol), these progress to more illicit drugs such as heroin, fentanyl and carfentanil [6]. According to the authors literature review, substance abuse preference differs by age and gender. For example, Compton, Men, Sethi, Sigman, the abuse of prescription opioid medications is on the rise and estimated to be higher among females. In fact, the prevalence rate is 30% higher than males, between the ages 20 to 39. However, the main drugs of choice for males are nonprescription drugs cocaine and heroin.

Substance abuse has negative consequences on both the physical and psychological well-being of the drug user. The brain undergoes changes depending on the type of substances and the amounts used, the frequency of usage and the dosage. The Mental Health Services Administration [2] recognizes drug addiction as a chronic disease that affects the pleasure reward centers of the brain, the limbic system that is responsible for the production of dopamine neurotransmitters, which leads to biological and chemical imbalances. In addition, according to Mattson et al. [2], the number of emergency room visits and deaths related to substance abuse overdoses have risen from 105,982 in 2011 to 300 emergency room visits per day, and prescription opioids have been the major contributor to causing drug overdose deaths among different age groups.

The main pharmaceutical treatment options for opioid abuse are methadone and suboxone (buprenorphine). The literature review demonstrated that Alcoholics Anonymous and/or Narcotics Anonymous support groups focus on spirituality and religion in order to help the addicts to recover from addiction [10]. The Twelve-Step Recovery Program provides a structured plan for drug abstinence and a great sense of community among the individuals who are also struggling with addiction. In conjunction with pharmaceutical treatment Cognitive-Behavioral Therapy, Multidimensional Family Therapy, Individual Therapy and Integrative approaches are utilized for long term substance abuse treatment effectiveness. However, literature reveals that there is no specific treatment available according to the age groups. The treatments that are mentioned above are used regardless of age or gender.

Discussion

The findings of the literature review revealed that the substance abuse disorder is very prevalent among the individuals between the ages of 12 and older, of any gender or socioeconomic group. In addition, the literature discussed the different substance abuse preferences among different ages and gender groups. These findings clearly indicate the strong awareness and prevention implications needed at the practical level. The literature review revealed the great need to implement existing research findings into the practice setting. The literature review revealed the great proposition to implement existing research findings into the practice setting.

Conclusion

This case study report incorporated the review of state and organization reports and peer- reviewed journal articles on the substance abuse disorder among the high-risk age population. The majority of the publications address the substance abuse problem in the United States, however there is a great gap between the research availability and the implementation of it in the practical setting. In order to prevent substance abuse, the educational interventions need to be effective and consistent among all levels of healthcare providers. In addition, patients, families, universities, colleges and community leaders need to have available access to substance abuse treatment and prevention materials.

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