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Addressing the Comorbidity of Depression and Substance Use Disorder

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Abstract

Depression and substance use disorder are complex mental health disorders that can impact an indviduals quality of life. While women have higher rates of diagnosed depression, white men between the ages of 25-34 are at highest risk for having untreated depression and substance use disorder. Philadelphia, specifically the neighborhood known as Kensington, has seen a fourfold increase in opioid overdose deaths. While opioid overdose rates are increasing in Philadelphia the rates of treatment are not. The three main barriers to treatment are stigma surrounding mental health disorders, affordability of mental health treatment, and access to treatment. This criteria indicates that Kensington and the zip code of 19125 would be most appropriate for an intervention addressing low rates of depression and substance use disorder treatment.

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Addressing the Comorbidity of Depression and Substance Use Disorder

Background

Introduction

The health issue of the comorbidity of depression and substance use disorder is a damaging and often undertreated condition that can be understood by exploring the effects of untreated depression and how that can cause substance use disorder. Comorbidity refers to having more than one disorder at one time (National Institute on Drug Abuse. [NIDA], 2010). An individual struggling with comorbidity makes treatment and prevention harder to address. In order to truly help the individual treatment of all disorders must occur. Advancements in research helped evolve the understanding of depression and substance use disorder as complex chronical illnesses that effect an indviduals health and quality of life (American Psychiatric Association, 2013). Substance use disorder which was previously referred to only as addiction and was seen as a flaw in character is now being identified as a chronic illness affecting ones brains chemistry (American Psychiatric Association, 2013). Substance use disorder is highly prevalent in Philadelphia specifically with opioid use, now being labeled a crisis. Philadelphia's opioid overdose death rate is much larger than all comparable cities in the United States at 46.8 per 100,000 (Aizen et al., 2018). Access to care both financially and in terms of availability are barriers to treatment. Stigma is also a known barrier to treatment and diagnosis. Most times the fear of stigma does not cause behavior change but instead leads individuals to simply hide certain behaviors or actions (Bharadwaj et al., 2017). The result of a study regarding under reporting showed that 36.5% of people observed using depression drugs in the administrative data do not report that they have been diagnosed with depression or anxiety. The average under-reporting rate of all other diagnoses is substantially lower at 17% (Bharadwaj et al.,

2017).Lack of care, stigma, and high costs for treatment makes indviduals struggling with depression less able to treat and manage their illness which could then lead to the comorbidity of substance use disorder.

Health Impact

Depression and substance use disorder has been increasing in prevalence in the last year. Depression currently affects around 8% of the population in the United States and costs $210 billion in healthcare costs every year (Maurer et al., 2018). Substance use disorder is defined by The World Health Organization as utilizing psychoactive drugs such as alcohol, stimulants, or opioids in a harmful or hazardous fashion (World Health Organization. [WHO], 2019). The National Institute on Drug Abuse (n.d.) data clearly illustrates a correlation between depression and substance use disorder by stating an individual with a mood disorder is twice as likely to have a drug dependency (American Addiction Centers, 2020). Comorbidity refers to having more than one disorder at one time (NIDA, 2010). An individual struggling with comorbidity makes treatment and prevention harder to address. In order to truly help the individual treatment of all disorders must occur.

Overview of Issue

Substance use disorder, specifically with opioid use, that stems from an established and untreated mental health disorder is an urgent health issue. A normal healthy functioning brain helps understand the meaning of the world and controls all processes such as sight, smell, memory, movements, and many more (Anatomy of the Brain, 2020). Depression alters these functions of the brain. Some symptoms can be easily overlooked by having a slow onset. Depression can change an indviduals thought process, their ability to pay attention, their

memory, and just the overall acceptance of life as it is (Tolentino et al., 2018). Substance use disorder tends to follow these symptoms of depression. The indviduals suffering from depression tends to turn to substances as a coping mechanism which is why comorbidity between these two disorders is common. Substance use disorder can affect an indviduals quality of life and make suicide or overdose more likely. Risk factors for opioid use include family history, poverty, intense pressure in life, stress, and mental illness (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016a). While substance use disorder can be viewed as a result of an untreated mental health disorder, it also has health consequences of its own. The use of opioids can reduce endorphins being released in the brain, worsen or establish mental health disorders, muscle fatigue, effect the functionality of organs, and potentially cause overdose which can be fatal (SAMHSA, 2016a).

Epidemiology

The national prevalence of both any mental illness (19.1 percent) and severe mental illness (4.6 percent) in adults older than 18 were higher than most years between 2008 and 2016 (SAMHSA, 2019). While women tend to have higher rates of diagnosed mental illness, middle aged white men currently have the highest rates of suicide. Between the years of 2000 and 2016 there was a 21% increase in rates of suicide in both men and boys in the United States (Willis, 2019). The use of opioids and opioid overdose is also highest among middle aged white men. In Pennsylvania, a mental health rating of 9 for adults has been assigned for 2020. This ranking system is based on thoughts of suicide, mental illness, not receiving treatment, substance use disorder, and lack of access due to costs or other unmet requirements (Mental Health America. [MHA], 2020). While this ranking is considered low and improving the rates continue to be

higher in adults than children. In Philadelphia, mental health disorders are at a higher prevalence with about 1 in 5 adults being diagnosed with depression in 2017. These rates are twice as high when compared to rates in 2002 (Department of Public Health City of Philadelphia, 2018). Evidence from a national sample illustrates that 43% of indviduals seeking treatment for substance use disorder, specifically opioids, already have a diagnosis of a mental health disorder typically depression or anxiety (National Institute on Drug Abuse [NIDA], 2020). Indviduals with an established mental health disorder were at higher risk for opioid use specifically. In 2018, 2 million people were estimated in having an opioid use disorder in the United States (SAMHSA, 2019). In this same year 67,367 people died due to opioid overdose (Centers for Disease Control and Prevention. [CDC], 2020). While Pennsylvania is considered low for mental health disorders, it is still one of the top states for opioid overdose deaths. This could be due to the fourfold increase seen in Philadelphia specifically for opioid related deaths (Department of Public Health City of Philadelphia, 2018). A health behavior that effects the expression of mental health disorder and the potential establishment of substance use disorder would be access and utilization of mental health treatment.

Prevention

Some factors that can influence the development of depression would be a family history of depression, exposure to traumatic life events, and other illnesses or medication. Mental health "parity' mandates are policies that requires insurance to cover mental health treatment equal to the amount that is covered by physical ailments (Liccardo et al., 2000). This policy is state regulated so not all states have parity laws. Studies show that these laws have little to no impact at the state level but show evidence of being much more impactful at the federal level (Liccardo

et al., 2000). These low rates also demonstrate how stigma is a large barrier to treatment independent of affordability of care. Stigma can be addressed through early health education. Analysis of school-based policy on depression and anxiety in children, prevention interventions showed positive results for depression prevention. The results shed light on the benefits of external programs not administered by school staff and more targeted programs for the prevention of depression in school age children (Werner-Seidler et al., 2017).

Screening and Diagnosis

Both depression and substance use can be screened, diagnosed and treated. Depression and substance use disorder are both diagnosed using the Diagnostic and Statistical Manual of Mental Disorders 5. The DSM-5 uses main criteria and secondary symptoms to identify multiple conditions but specifically depression in a patient. In order for an indviduals to be diagnosed with depression, they must have 5 or more symptoms stated in the DSM-5. One of these must be depressed mood or Anhedonia both of which are categorized as main criteria (Tolentino et al., 2018). There are many different types of depression which all have slight differences that are important to identify. In order to be diagnosed with depression an individual must be experiencing many depression-like symptoms that last at least two weeks (NIMH, n.d.). Many factors can affect which form of depression a person is struggling with whether it be time of year, length of symptoms, postpartum, or added symptoms such as psychosis or mania (NIMH, n.d.). In addition to having multiple types, depression also is categorized by severity. In terms of severity depression is on a continuous scale and utilizes the Hamilton Depression Rating Scale (HAMD) (Tolentino et al., 2018). Substance use disorder itself is divided into mild, moderate, and severe (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016b).

The understanding of these thresholds and how many DSM-5 criteria is met is what determines the status of the condition. The amount of DSM-5 criteria for dependency and substance use disorder are grouped into experiencing 2 or more to experiencing 4 or more symptoms (Hasin et al., 2013). Categorizing symptoms using the DSM-5 for substance use disorder aids in determining the severity of the disease and differentiate between category of use or dependency.

Treatment

One of the largest barriers with treatment for all mental health disorders including depression is stigma. Mental health has been a taboo subject until recently, thus putting stress on the indviduals struggling with untreated or undiagnosed disorders to seek treatment. Indviduals struggling with a mental health disorder are worried about how their family will view them, how it could affect their job, and their social life. While treatment can look different for everyone, the most common track is a combination of medication and psychotherapy (NIMH, n.d.). Psychotherapy is a type of talk therapy much like cognitive behavioral therapy which could serve as prevention of depression through management of symptoms or as a treatment for an already established diagnosis of depression. Cognitive behavioral therapy is a well-known and widely accepted form of talk therapy which is designed to help an indviduals form new patterns of thinking in hopes to rewrite behavior. A study found that students at risk for depression who enrolled and completed group meetings for 2 hours once a week saw a decrease in anxiety and major depressive episodes. This demonstrates how group therapy and social interactions can help ease stressors that could influence anxiety and depression. It is important to have some form of

relief whether it be through mindfulness, yoga, reading, or an enjoyable activity. These actions can improve mood, brain functionality, and the feeling of being overwhelmed.

Medication

Antidepressants and SSRI's are common types of medication used to treat depression (NIMH, n.d.). They are used to adjust brain chemistry in order to balance out the chemicals being released in the brain. Seeking medication for depression is viewed as a journey because sometimes it takes multiple tries to match an appropriate medication with a patient. Antidepressants need 2-4 weeks to have an effect and they typically improve mood, sleep, and functionality or concentration first (NIMH, n.d.). Medication taken for an illness can influence the symptoms contributing to depression so an understanding of how a medication effects the patient is essential in preventing worsening symptoms of depression (National Institute of Mental Health. [NIMH], n.d.). Treatment of substance use disorder depends on the severity of the condition. Low level dependency's can be treated through general health care and stronger prevention interventions while substance use disorder and addiction tend to require specialty treatment (SAMHSA, 2016b). While early intervention is the best defense, detailed and ongoing programs in addition to some medications have shown to have promising outcomes in terms of treatment (SAMHSA, 2016b). The understanding of substance use disorder as a complex condition aids in assuring a patient will have access and be recommended to special programs in which work with the individual over time to change the chemical dependencies in the brain.

Conclusion

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Due to rising rates of both depression and substance use disorder in the United States, this program is focused on examining and describing the correlation of substance use and depression focusing on untreated depression. Middle aged white men currently have the highest rates of suicide, a common symptom with depression. Depression is identified through the persistence of multiple depression-like symptoms and can be the result of family history, stress, and other illnesses or medications. Depression changes the chemistry of the brain and thus affects the functionality of the brain and its ability to process, control, and focus. Once depression is identified and diagnosed, there are clear barriers to treatment. Stigma, lack of access, and costs of care affects indviduals ability to seek treatment for depression. If these barriers subside and an individual pursues treatment, a long-term journey of switching medications and attending therapy can make the treatment a long slow process.

Community Needs Assessment

Introduction

The proposed program will address the comorbidity of depression and substance use disorder in a population of 25-34 aged white men in the Kensington Community of Philadelphia. The intervention site for this program will be at the Kensington hospital located on Diamond street. The quantitative data was identified through zip code level data through the five-year American Community Survey of 2018 from the United States Census Bureau (U.S. Census Bureau, 2018).

Quantitative

Age and Sex

The neighborhood of Kensington includes the zip code 19125 and has a population of 24,674 people (U.S. Census Bureau, 2018a). The sex distribution of this area is 12,739 (51.6%) males to 11,935 (48.4%) females (U.S. Census Bureau, 2018a). While women usually have increased rates of mental illness, middle aged white men currently have the increased rates of suicide (Willis, 2019). The use of opioids and opioid overdose is also highest among middle aged white men. The two largest age groups in this area are 25 to 29 year old's with 3,883 people (15.7 %) and 30 to 34 year old's with 4,530 people (18.4%) (U.S. Census Bureau, 2018a). This age group also had an increased national prevalence of any mental illness (19.1 percent) and severe mental illness (4.6 percent) in adults older than 18 were higher than most years between 2008 and 2016 (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019).

Race Distribution

The race distribution in Kensington is observed as 80.3% White, 4.6% Black or African American, 6.5% Asian, and 5.4% as other (U.S. Census Bureau, 2018b). This could impact the community's social cohesion. This could indicate stress and isolation if indviduals in the community don't feel their race or ethnicity is represented in the community. Middle aged white men currently have the highest rates of suicide with a 21% increase seen between 2000 and 2016 (Willis, 2019).

Income

The top 3 income distributions of Kensington are $1 to $9,999 or loss 15.2%, $35,000 to $49,999 15.3% and $75,000 or more 14.8% (U.S. Census Bureau, 2018b). The poverty status

observable here is 72.5% of these indviduals in poverty are at or above 150 percent of the poverty level (U.S. Census Bureau, 2018b). A study has shown an inverse relationship between depression and income (Akhtar-Danesh, N. & Landeen, J., 2007).This means that rates of depression are higher for indviduals who are farther below the poverty line.

Education

The educational attainment of this area is less than high school graduate 14.1%, high school graduate includes equivalency 26.3%, some college or associate degree 17.3 %, bachelor's degree 27.3%, graduate professional degree 15% (U.S. Census Bureau, 2018b). This can impact the community's ability to get a high earning job, the literacy of the community, and the knowledge the individual has of depression and substance use disorder. A high earning job impacts income which can further impact things like the environment an individual lives, their home, and their health care access. Literacy can impact an indviduals ability to understand and interoperate an intervention. Knowledge of depression and substance use disorder impacts an indviduals ability to identify these conditions and seek help. The lowest and highest rates of depression dependent on the level of education is observable among individuals with less than secondary school and those with "other post-secondary" education (Akhtar-Danesh, N. & Landeen, J., 2007).

Language

The language distribution in this area code is speaks a language other than English 13.9%, speaks English "very well" 7.8%, speaks English less than "very well" 6.1% (U.S. Census Bureau, 2018b). While this takes into literacy, it also takes into account the possibility of

the community speaking various languages besides English. This could impact the community's ability to understand the intervention.

Qualitative

A main defining road in this area would be Kensington Avenue which is included in the 19125-area code. Kensington goes beyond the boundaries set by the zip code 19125, but that zip code is best represented in this community. The criteria used to evaluate Kensington would be housing, community appearance, health care delivery, community resources, public transportation, and social cohesion. The community visit took place on October 7th at 4pm for 1 hour.

Infrastructure

Upon visiting the neighborhood of Kensington, many community characteristics were identified and observed. While the area of Kensington close to Fishtown has new housing and infrastructure the heart of Kensington and Kensington avenue is more so defined by boarded up and dilapidated buildings. The sidewalks in this neighborhood are broken and are covered with trash. Kensington appears to have a lack of health care delivery with little observable health care buildings. A few holistic care buildings were observed in the area such as massage parlors, however. Kensington hospital is located on Diamond street (See Figure 1). The hospital is difficult to identify besides a small sign out front. The next closet hospital in the area would be Temple hospital in the surrounding area of Kensington. This neighborhood follows the structure of North Philadelphia in terms of lacking green space and parks. The majority of the buildings here are commercial businesses as well as childcare and churches. In terms of transportation

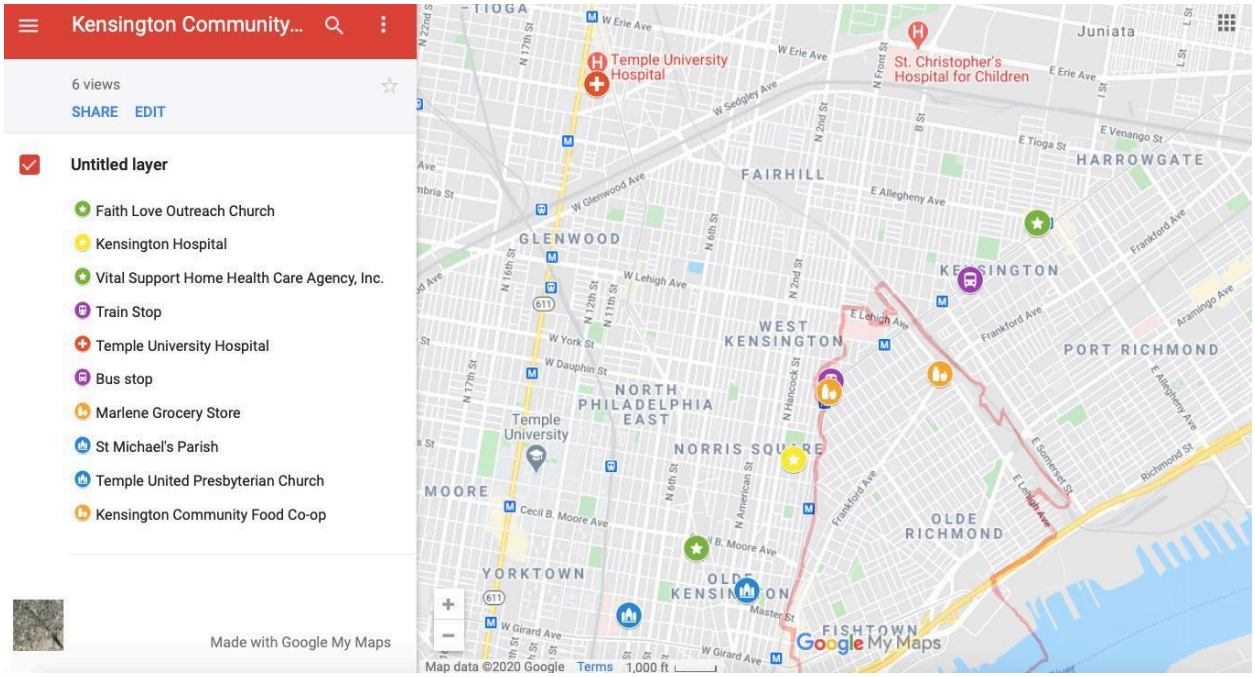
there are many observable bus stops all throughout Kensington. This area is also defined by multiple sets of Amtrack tracks running close to the neighborhoods perimeter.

Social Cohesion

The social cohesion in this neighborhood seems to be strong with many neighbors sitting on stoops together and talking to each other in the streets. Utilizing this strong sense of social cohesion could aid in the development of an intervention in Kensington. Three potential partners could be a church such as the Faith Love Outreach Church, Kensington hospital, or Vital Support Home Health Care Agency (Google Maps, 2020). Focusing an intervention at Kensington hospital could aid in strengthening bonds between the population living in Kensington and the hospital. Since this is the main hospital in Kensington it is already well known in the community.

Figure 1

Map of Kensington Community (19125)



(Google Maps, 2020).

Conclusion

Philadelphia has seen a fourfold increase in opioid related deaths during 2018 but Kensington was the hardest hit (Department of Public Health City of Philadelphia, 2018). Kensington is often identified by Kensington avenue and the zip code of 19125 and has a large population of at risk indviduals for untreated depression and substance use disorder. The population identified above as the most at risk would be White males between the ages of 25-34 who have low socio-economic status. Education and income both serve as risk factors for untreated depression and substance use disorder. An inverse relationship has been identified between socio-economic status and rates of depression (Akhtar-Danesh, N. & Landeen, J., 2007). This large distribution of the at-risk population combined with recent data regarding depression

and substance use disorder makes the neighborhood of Kensington an appropriate location for a treatment intervention centered around health education and the dismantling of stigma.

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