



## Case Report

# Study on the Impact of Drug Abuse on Residents of USA, with Indiana as a Case Study

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### Abstract

This study primarily seeks to review the existing literature (mainly the currently published articles by the American public health stakeholders) on the topics pertaining to the effect of drug addiction in United State with a strong emphasis on the state of Indiana. First, a thorough examination of the historical account of the origin of drug abuse and substance misuse and their inherent negative impact on the lives of the American people was described. Next, the current challenges of drug addictions in US with much emphasis on how America fares in comparison with other great nations, notably her key European allies, were reviewed. Finally, the study homes in on the challenges of drug addictions in Indiana and their attendant consequences on Indianans' health, education system, lifestyle, and economy. It was established that US trails other industrialized nations in devising effective policy framework that can adequately address drug addiction issues confronting her societies despite her comparatively high research contribution on illicit drug use, and that almost similar drug addiction patterns exist between Indiana and the entire country. it was therefore concluded that a very effective policy framework will be urgently required to address the pressing issues of drug addictions afflicting different US states, especially Indiana. It is hoped that this framework will checkmate the worsening cases of illicit drug use and substance misuse in America, and consequently improve America's overall health care delivery system.

**Keywords:** Illicit drug use; Drug abuse; Substance misuse; Indiana

**Abbreviations:** ANHOPI: Asians/Native Hawaiians, and other Pacific Islands; DUI: Driving Under Influence; DWI: Driving while intoxicated or impaired; AI/ANS: American Indians and Alaska Natives; LGB: Lesbian, Gay, and Bisexual; NSDUH: National Survey on Drug Use and Health; SAMDHA: Substance Abuse and Mental Health Data Archive

### Introduction

Drug abuse is widespread in all US states including Indiana. The key drugs that are misused in the country include alcohol, tobacco, marijuana, pain relieving substance, and cocaine among several others [1]. However, the menace of illicit drug use has

a ravaging effect on the mainstream US societies. These effects are harsh and pose great threat to mental and physical health, education, family fabric, economy, and the American society at large.

Despite many prominent American public health stakeholders have been intensifying research efforts with the sole aim of finding a sustainable solution and a working policy framework that will help checkmate the widespread of illicit substance use across the nation, the prevalence rate of drug abuse and substance misuse in the US is still alarmingly high [2]. The objective of this study is therefore to review the current prominent American literatures on drug addictions in US, most especially in Indiana, with the hope of helping the key stakeholders develop a better understanding of how to address the problems attributable to illicit drug use in an effective manner.

## Historical Background

### Origin of Drug Abuse/Addictions in US

The first case of drug addiction in US could be traced to the use of opium which was used to manage gut motility issues in nineteenth century [3]. Opium was prescribed for patients diagnosed with Cholera (1832-1833) and dysentery (1847-1851) when there was a high prevalence of these diseases in America [3]. However, the emigration of Chinese workers to US close to those periods led to its introduction to the native white American population by the immigrants, who relied on its use to ease off hardship associated with their harsh working conditions [3]. Wide use of opium was also noticed during the American civil war especially among the war veterans who relied excessively on the said drug to treat wounds and relieve pain [3].

The era of American civil war also marked the rise of interest in the use morphine, which was used to treat several ailments including cough, malaria, and syphilis among others [3]. Morphine was also used by American women as a pain reliever during menstruation, and by artists and writer as a stimulant to enhance creativity [3]. This observation accounted for why at least 60% of individuals who were addicted to morphine in US were women [3].

Cocaine gained prominence in 1894 for its use as an anesthesia by American health care providers [3]. The high addiction of American doctors, however, to cocaine towards the end of the nineteenth century drew legislative concerns [3]. One clear example of the legislative measure against the widespread intake of cocaine was the establishment of Houston Texas ordinance in 1898 that imposed at least a fine of 21 dollars for the sale of cocaine, as well as morphine and opium without approval [3]. This control measure led to social change among American drug addicts.

Notwithstanding, US began intensifying international efforts against drug abuse-evidence of this was her participation in 1909 Shanghai commission [3]. Efforts were also made in 1909-1910 at enacting federal laws against indiscriminate drug use but they were unsuccessful [3]. Consequently, treatment centers were created across major US major cities for addicts [3]. Despite the establishment of treatment centers, further efforts to ban illicit drug use intensified, and this led to the establishment of the Harrison Act; this act strongly regulated the treatment of patients with narcotics and put an end to the operation of treatment centers [3]. However, as cocaine use declined, the addiction to heroine became prominent among American youths in 1920 [3].

### Major Drug Addictions in US

According to the study conducted by National Survey on Drug Use and Health (NSDUH) on drug abuse and substance addictions

in 2018, the major substances misused in US include alcohol, tobacco, marijuana, pain relieving substance, cocaine, tranquilizer or sedative, stimulant, hallucinogens, methamphetamine, inhalants, and heroin [4]. The study was carried out in the form of a survey and a questionnaire for close to 70, 000 people living in the country in a year – all the states (including Indiana) and Washington DC were considered [4]. With the exclusion of active military men and women, prison inmates, patients hospitalized for ages, and homeless individuals without accommodation; at least 67, 500 Americans from all works of life were randomly selected for in-person interview from the beginning of the year to the end of the year that the study was done [4].

The said study primarily focused on the types of substances or drugs misused, the individuals who misused those substances, the ages of those individuals, the states where the individuals lived in, the individuals' racial affiliations, their genders, and their sexual orientation – only individuals who were at least 12 years old were considered [4]. The finding of the study was reported for these categories of Americans: Indians and Alaska Natives (AI/ ANs); African Americans; Asians/Native Hawaiians, and Other Pacific Islanders (NHOPI); Hispanics, Latino or Spanish Origin or Descent; Lesbian, Gay, and Bisexual (LGB) adults; veterans and women [4].

It was found that alcohol addiction among the African Americans and women (mainly female adolescents) declined markedly all through 2015 to 2018 [4,5]. A similar observation was also made for the Hispanics; there was a declined in alcohol addiction during 2017-2018 for the Hispanics who were at least 26 years old, although those who were younger did not exhibit a remarkable change of attitude towards alcohol addiction during that period [4]. In contrast, there was no marked difference in alcohol addiction exhibited by LGB and American veterans all through 2015 to 2018. In the same vein, there was a marked increase in alcohol addiction among Asians/Native Hawaiians, and Other Pacific Islanders (NHOPI) during the period [4].

However, except for the observation made for AI/AANS (at least 12 years old) and NHOPI who showed no remarkable change in opioid addiction from 2015 to 2018; opioid addiction declined among women, African Americans (at least 12 years old), LGB (18-25 age bracket), veterans and Hispanics (at least 18 years old) [4]. It was also observed that there was no significant change of attitude towards heroin addiction among African Americans, ANHOPI, Hispanics and women during the period of study – though a decline was seen in heroin addiction among LGB [4].

As for the case of 'other illicit substances', the study further revealed that there was a significant increase in marijuana addiction from 2015 to 2018 among African Americans (at least 26 years old), NHOPI (18-25 age bracket and at least 26 years old), women (18-25 age bracket) and Hispanics (at least 26 years old) –

including the female Hispanics (18-25 age bracket) [4]. In contrast, there was a decline in marijuana addiction among Hispanic youths (12-17 age bracket) while no change was noticed for the African Americans (belonging to other age groups), AI/ANS, LGB and veterans (at least 26 years old and 18-25 age bracket) [4]. In the same vein, there was a decline in cocaine addiction among AI/ANS and Hispanics (18-25 age bracket) from 2017 to 2018, while no conspicuous difference was seen in cocaine addiction among African Americans and LGB during that period [4]. Finally, there was an increase in cocaine addiction among NHOPI (18-25 age bracket) from 2017 to 2018 [4].

### **Major Drug Addictions in Indiana**

As was the case for US, the major substances most often abused in Indiana include alcohol, tobacco, marijuana, cocaine, and methamphetamine [1]. Alcohol is the number one substance that is most abused in Indiana – next is tobacco, typically in the form of cigarette. However, marijuana is the most widely used among the drugs considered unlawful by the state of Indiana [6]. Additionally, among the illicit drugs considered less prevalent in Indiana, prescription pain reliever is the most inappropriately used – next is cocaine followed by heroin [1,6].

Moreover, recent study of drug or substance intake in Indiana's urban and rural societies revealed that methamphetamine ingestion is more common in the rural societies while cocaine consumption is more dominant in the urban settings [6]. The study also revealed that there was a remarkable increase in the rate at which both the rural and urban dwellers used injectable drugs – with lower rate recorded among urban residents and higher rate noticed among the rural dwellers in 2016 specifically [6]. Additionally, when the records of the patients who were admitted into various rural and urban health centers for treatments (arising from substance abuse) were analyzed, it was found that: fewer females than males were admitted; whites dominated the races present; and individuals aged 25-34 predominated the age groups observed [6].

### **Comparing Drug Abuse in US with the Rest of the World**

#### **A comparison of drug addictions in US with Europe**

Studies have shown that United State has higher rate of drug addiction among her youth (at least 12 years) and adult (55-64 years) population than most of her European counterparts [7]. This observation is true for nearly all addictions to different kinds of drugs and substances which were investigated [7] by different drug and substance use regulatory bodies including those of US [4]. Consequently, this development led key American public health stakeholders to intensify efforts aimed at raising more awareness about the danger associated with the rising cases of drug abuse in the country and its attendant health consequences [2,9]. Evidence of this fact lies in the higher rate of scientific publications

attributable to drug abuse made by US alone compared to those of other countries in recent times [9]. For example, a bibliometric analysis of published articles of different industrialized nations on drug abuse (all through 2011 to 2017), clearly shows that US leads research contribution in that subject [9].

Despite the high level of awareness about the said subject, there is still a growing concern about the fact that US has higher death rate attributable to substance use, worse substance correction services, and higher rate of addiction than her European counterparts [7]. Prominent research that compares the American health care service delivery system with those of the other developed nations shows that US has one of the worst mental health problems among the countries compared – with her relatively insufficient mental health care service delivery personnel needed for her adult population, her relatively high mortality rate ascribed to substance misuse, her relatively alarming rate of suicide among the youth population and the frequent struggle by her adult population for health care delivery service [7].

### **A Comparison of Drug Addictions in US with Other Regions**

It is pertinent to state here that no study that directly seeks to compare the trends associated with illicit drug use in the US with those of the rest of the world (based on country-wise analysis using the same metrics) could be found in the literature, to my knowledge. However, a pertinent study on this subject revealed that US recorded higher death rate attributable to drug abuse from 2011 to 2018 than most of the other countries in the world (including the underdeveloped and the developing countries irrespective of their regions) despite her comparatively higher research contribution on studies pertaining to illicit drug use [9]. Surprising was the fact that the study also reported a lower death rate for China than America despite the latter's larger publication output on the said subject and the former's larger population than the latter [9]. This observation highlights the fact earlier made that there is a high awareness about illicit drug use in US which is yet to translate to effective policy framework which can address the issue most effectively.

### **A Comparison of Drug Addictions in Indiana with other US States**

As said before, the cases of drug and substance addictions in Indiana are like those of the entire country [1,11]. For 10 years, the widespread indulgence in substance misuse noticed for US and Indiana for many substances (notably alcohol, marijuana, and binge drinking) are similar, though tobacco smoking is more widespread for the latter [1]. This observation is also true for drugs that are not very common in the mainstream population. The prevalent rates of these drugs are very similar for Indiana and US – among the said drugs, the least abused is heroin followed by cocaine and prescription pain reliever [1].

## **Effects of Drug Addictions on Indiana Residents**

### **Sociological effects**

Drug abuse and substance misuse have tremendous negative sociological effects on Indiana societies [6]. These sociological effects include the rising cases of drug overdose deaths, increasing rate of vehicle accidents attributable to alcohol misuse, increasing frequency of arrests attributable to illicit drug use [6] and the rising incident of gambling among under-aged Indianan high school students [10]. As an illustration of this observation, Indiana recorded no fewer than 236 overdose deaths in 2015 alone – a record that was almost double that of 2005 [1]. Another record shows that at least 23000 Indianans were arrested for illicit drug sales in 2014; 28000 arrests were recorded for either DUI or DWI cases in that year [1]. However, a much-related record also revealed that 6642 accident cases occurred in 2015 on account of alcohol misuse in Indiana, resulting in 152 deaths [1].

### **Effects on mental health**

Studies have shown that there is a striking correlation between substance misuse and the rising cases of depression and suicide attempts among Indianans in recent times [1]. These studies also revealed that uncontrolled alcohol intake in Indiana could be blamed for the frequent occurrence of violent crimes and accidents with their attendant severe mental issues [1]. Because alcohol is a depressant, its excessive consumption can also cause mood disruption and dysarthria [1].

Similar studies have also identified hallucinations, mood disruption, distorted time perception, distorted mindset, paranoia, and memory loss as the key indicators of marijuana misuse in Indiana [1,6]. Furthermore, because cocaine and methamphetamine are responsible for the release of dopamine by the brain, their abuse can lead to abnormal appetite for sexual activities – more severe effects of their use are also responsible for emotional stress and cognitive impairment [6].

### **Effects on physical health**

The effects of drug abuse and substance misuse on the health of Indianans are severe and most pronounced among the Indianan youths who are the worst abusers of drugs and substances in the state [1]. For example, individuals who are addicted to heroin and cocaine risk contracting HIV and hepatitis C, while the prolonged use of the said drugs can lead to weight loss, dental issues, and skin irritations [6]. Additionally, the overindulgence in alcohol can pose breathing difficulties or lead to coma or result in the outright death of the individuals, in extreme cases – prolonged alcohol intake can also damage the internal body organs such as liver, pancreas and heart [6]. However, tobacco use in Indiana is known to be responsible for chronic lung infections, bronchitis, lung cancer and heart diseases that typically result in stroke [6]. Majority of the

Indianan pregnant women who smoke also risk losing their babies upon delivery or giving birth to an infant with a low birth weight [1].

### **Effects on education and lifestyle**

Substance misuse and drug abuse have also been recognized by Indiana for their detrimental effects on the education system and lifestyles of Indianans, most especially the Indianan youths [10,11]. As an illustration of the negative effect of substance use disorder on Indianan education system, a recent study established a correlation between addressing substance misuse by Indianan students and the positive impact it had on their learning outcomes [10]. It was found that gambling, truancy and worsening academic performances are a direct consequence of illicit drug use or substance misuse by Indianan students of grade 6-12 [10].

However, a related study also found that ‘community risk factors’ such as change of community (either in the form of school transition or change of abode) heighten the risks of drug indulgence and its associated crimes among Indiana in youth population [10]. Other ‘community risk factors’ (that pose high risks of drug indulgence and consequent addiction among Indianan youth population) which were also identified by the said study include: high community incarceration rate, family economic status, neighborhood influence, peers influence, broken family, and mental health issues among others [10].

### **Effects on economy**

The economic repercussion of substance misuse in Indiana and its associated issues is also quite enormous. For example, according to SAMDHA Indiana incurred over \$4.4 billion on addressing alcohol intake in the state in 2010 [1]. Additional report published by SAMDHA in 2014 on tobacco use, shows that Indiana incurred roughly \$6.8 billion on issues bothering on health care delivery system, tax, and work productivity – while cost incurred on drug overdose deaths in that year, was estimated to be \$1.4 billion [1]. A recent report published by SAMDHA, however, estimated the cost incurred by Indiana on opioid intake in 2015 as \$650 million [1]. In a related development, another source estimated the cost incurred by the state government of Indiana in providing drug abuse correctional services in 2015 as \$776 million [1,6].

## **Conclusion**

1. Drug and substance addictions in Indiana are comparable with those of the entire nation; notably, prescription pain reliever, cocaine and heroin respectively have high prevalence rate in Indiana and US
2. Majority of the other advanced nations (including the top European countries) have lower rate of drug abuse and substance misuse among their youth and adult population than the US does, despite the comparatively greater commitment



that America has made towards research on drug abuse related issues than those countries.

3. Consequently, a better and more effective policy framework will be required to address the worsening cases of drug abuse in American states (most especially Indiana) with their attendant consequences.

## References

1. Balio C, Greene MS (2017) Substance Abuse Trends in Indiana: A 10-Year Perspective. Published by The Center for Health Policy at the IU Richard M. Fairbanks School of Public Health, Indianapolis, IN.
2. Murthy V (2016) Addressing addiction in the USA. *Lancet* 388: 2565.
3. Kandall SR, Chavkin W (1992) Illicit Drugs in America: History, Impact on Women and Infants, and Treatment Strategies for Women. *Hastings Law Journal* 43: 615-643.
4. SAMHSA (2020) Key Substance Use and Mental Health Indicators in the United States: Results from the 2019 National Survey on Drug Use and Health.
5. SAMHSA (2020) 2018 National Survey on Drug Use and Health: African Americans.
6. Kooreman H, Greene MS (2017) Substance Abuse in Indiana: An Urban-Rural Perspective. Published by The Center for Health Policy at the IU Richard M. Fairbanks School of Public Health, Indianapolis, IN.
7. Tikkanen R, Fields K, Williams II RD, Abrams MK (2020) Mental Health Conditions and Substance Use: Comparing U.S. Needs and Treatment Capacity with Those in Other High-Income Countries. The Commonwealth Fund.
8. Devi S (2011) USA homes in on prescription drug abuse. *Lancet* 378: 473-474.
9. Bramness JG, Henriksen B, Person O, Mann K (2013) A bibliometric analysis of European versus USA research in the field of addiction. Research on alcohol, narcotics, prescription drug abuse, tobacco and steroids 2001-2011. *Eur Addict Res* 20: 16-22.
10. Jun M, Gassman R, Agle JD, King R, Samuel S, et al. (2020) Indiana Youth Survey-2020. Bloomington, IN: Institute for Research on Addictive Behavior.
11. Jacinto C, Greene MS (2018) Community Conditions Favorable for Substance Use. Published by The Center for Health Policy at the IU Richard M. Fairbanks School of Public Health, Indianapolis, IN.