Effects and Withdrawal of Drug Addiction

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Abstract. Drug addiction is very common among people. Thousands of people are now suffering from cocaine addiction. Nicotine addiction may be one of the most common in the world, but many people underestimate the health hazards of nicotine. This report, presents nicotine in four parts: harms and addiction; research; conclusions, and further implications. Because nicotine is not like most banned drugs on the market-nicotine cannot be absorbed directly, people must be exposed to nicotine through a certain medium. The most common and intuitive way is through smoking, secondhand smoke, and e-cigarettes. However, most people don't start smoking because of nicotine addiction, so the authors of this paper conducted experiments on why people start smoking late. Through self-made questionnaires and online experimental surveys, the results showed people were exposed to smoking because of environmental factors, social factors, psychological factors, and so on. People were exposed to nicotine for too long due to their addiction to cigarettes, which evolved into an addiction to nicotine. In the later stage, due to the addictive nature of nicotine, people no longer smoke because of the original addiction to smoking, but because they want to meet the needs of nicotine.

Keywords: Drug addiction, Impact, Withdrawal.

1. Introduction

The author has compiled several papers online and summarized the results as follows. These results are all about why people start smoking and what motivates people when they are not addicted in the first place. First, fancy cigarette advertisements are attractive to teenagers, which leads them to start exposure to cigarettes [1]. Young smokers have higher advertising awareness; advertising-induced market share changes occur primarily among young smokers. Various cigarette advertisements encourage teens to smoke. Second, due to the influence of adolescent rebellion, adolescents tend to smoke [2]. For teenagers, maybe they know that smoking is bad for their health, but for them, smoking is a symbolic act that conveys the meaning of "I am no longer my mother's child" and "I am strong" . Third, movie stars who smoke will influence their fans [3]. Most smoker favorite idols smoke on and off screen compared to idols who never smoke. Celebrities who smoke on and off screen may encourage young people to smoke, after the author's research. Forth, Children will be affected by smoking families [4]. A considerably reduced probability of daily smoking beginning among teenagers was predicted by fewer family members who were smokers, tougher family restrictions and supervision, and stronger family relationships. These findings imply that parents may lower their children's risk of daily smoking by minimizing family strife, upholding tight relationships with their kids, establishing clear ground rules, and regularly observing their conduct.

1.1 Drug Addiction

The tobacco plant has the plant alkaloid nicotine, an addictive organic compound that is a nitrogen-containing natural molecule. It is also a highly addictive stimulant. Despite being a stimulant, nicotine differs from other drugs that the government has banned since it is frequently present in cigarettes and other tobacco products. Nicotine is mostly produced by tobacco plants, although it is also produced by green pepper, potato, and eggplant plants. All of these other plants belong to the nightshade genus, however they have far less nicotine than tobacco plants. There are various other effects of nicotine.Human bodies have certain proteins known as receptors, and these receptors only

bind to certain substances or neurotransmitters. Nicotine binds to nicotine-specific cholinergic receptors. Because nicotine is an agonist, a biological reaction occurs when it binds to a receptor. Numerous parts of the body, such as the brain, ganglia, and neuromuscular junctions (regions where nerves and muscles communicate chemically) have nicotinic choline receptors (groups of nerve cells). When nicotine attaches to receptors, it causes beta-endorphin, norepinephrine, dopamine, serotonin, acetylcholine (ACH), and ACTH, several neurotransmitters (messenger chemicals), to be produced in the body. Dopamine, beta-endorphin, and serotonin, for example, are neurotransmitters that govern happiness, mood, mood, and pain relief.For example, the release of dopamine is what makes people feel good after smoking a cigarette. Other neurotransmitters such as acetylcholine control physiological responses such as cardiac contraction and muscle movement [5].This is the reason why a person's blood pressure, heart rate, or arteries may narrow right away after consuming nicotine.Besides being utilized in cigarettes, nicotine has a wide range of other applications. For instance, nicotine is used recreationally due to its pleasant and mood-altering effects.The use of nicotine is very common. Nearly 40 million adults in the United States smoke [6].While smoking cigarettes is the most popular method of ingesting nicotine for recreational purposes, other nicotine-containing items include cigars, snuff, e-cigarettes, pipe tobacco and chewing tobacco. And these are the primary routes by which individuals can come into touch with nicotine. Nicotine usage over an extended period of time can alter the brain permanently.Nicotine ingestion repeatedly releases dopamine, which teaches the brain to keep using nicotine, which can lead to addiction [7].

1.2 Motivation for Exposure to Nicotine

Although the author has studied the addictive properties of nicotine, nicotine is not like most banned drugs on the market after all - nicotine cannot be directly absorbed, so there must be a way for people to come into contact with nicotine. The most common and intuitive ways are through smoking, secondhand smoke and e-cigarettes. However, it is clear that most people do not start smoking because of nicotine addiction, so there must be a reason why they are motivated to smoke and start smoking long term. Therefore, the author first assumes the reasons why people start smoking traditional cigarettes and lists the main reasons:

1. By watching TV, people think smoking is cool, so they imitate it.
2. Relatives and friends let them smoke while they smoke.
3. Adolescent rebellion.

Girls develop nicotine addiction in as little as 3 weeks, compared to 6 months for men [8]. From the data here it can be concluded that when people start exposure to cigarettes, whether traditional cigarettes or e-cigarettes, they do not become addicted to nicotine and become dependent from the start, which leads me to another hypothesis: yes What makes people addicted to smoking or continue smoking in the first place. Maybe they like the smoke; maybe they think smoking is cool and enjoyable; maybe they think smoking represents maturity and enjoy the feeling of maturity; while it's not addictive, there are special occasions where someone has to smoke. In addition to this, the author provides multiple-choice questionnaires to try to find out why there is a strong tendency to vape over smoking. According to our survey, 68.18% of people choose to smoke electronic cigarettes because of their small size and easy to carry, 4.55% of people choose to smoke electronic cigarettes because they can be used as accessories, and 59.09% of people choose to smoke electronic cigarettes. They said they did not like the taste of traditional cigarettes, 31.82% of them chose e-cigarettes because of the fruity taste, and 50% of them chose e-cigarettes because they thought they could do it even in shopping malls that smoked some e-cigarettes. After distributing the author's self-made questionnaire (unpublished), considering the limitation of thinking, most of the questions may not be standardized. The author has compiled several papers on the Internet, and combined with the author's own investigation results, the final results are summarized as follows. These results are all about why people start smoking, and that is, what motivates people to try smoking for the first time.

First, fancy cigarette advertisements are attractive to teens, which leads them to start exposure to cigarettes [1]. Younger smokers are more conscious of advertising; market share patterns across age

and gender categories reflect perceived advertising patterns; and changes in market share brought on by advertising mostly affect younger smokers. The attention of never-smokers was piqued by a range of creative commercials. Teenagers are encouraged to smoke by many cigarette advertising.

Second, adolescents tend to smoke due to the influence of adolescent rebellion [2]. For teenagers, maybe they know that smoking is harmful to health, but for them, smoking is a symbolic behavior, symbolizing their yearning for independence, freedom, and adulthood, conveying "I am no longer my mother's child" and "I'm strong" meaning.

Third, smoking movie stars influence their fans. Most smokers' favorite idols smoke on and off screen compared to idols who never smoke. In multivariate analysis, never smokers who liked teen smokers' favorite stars were more likely to smoke than teen never smokers (OR = 1.35; 95% CI 1.12), even after adjusting for teen smoking and demographic variables 1.62 The effect was only slightly weaker than friends and family members exposed to smoking (OR = 1.45; 95% CI 1.13, 1.85) [3]. The study provides preliminary evidence that celebrities who smoke on and off screen may encourage young people to smoke.

Fourth, smoking families will have an impact on children [4]. In families where many family members smoke, children tend to be more likely to smoke when they grow up. There are two main reasons: 1. Because cigarettes are available to them since childhood, and with the influence of the family, children grow up It is easy to start smoking when they are old; 2. Those children who have been exposed to second-hand smoke since childhood, the nicotine infection will far exceed other children, which makes them more prone to smoking addiction (nicotine addiction). On the other hand, less smoking in the family, more stringent restrictions and monitoring, and closer family relationships indicated a much reduced chance of teen smoking start. These findings imply that parents may lower their children's risk of daily smoking by minimizing family strife, upholding tight relationships with their kids, establishing clear ground rules, and regularly observing their conduct.

2 . Impact

When talk about the influence that E-cigarette have on people, the first thing we should mention is what ingredient in E-cigarette makes people addicted. E-cigarettes come with cartridges or pods that are filled with e-liquid, which is a mixture of flavorings, propylene glycol or vegetable glycerin, water, and nicotine. The most addictive element, as everyone knows, is nicotine. Nicotine was used to be the pesticide in the US. It found in tobacco plants. And most of the tobacco products, including E-cigarette, contains nicotine. After people inhale the nicotine, it takes only few second for it to reach the brain and stimulate hormone system to release dopamine, a neurotransmitter which make people to feel pleasure and relaxation. Besides, E-cigarette contains some liquid to vary their favor which created by chemical compound. Those chemical compounds also have problem to health.

2.1 The impact on body health

Too much consumption of nicotine in our bodies is fatal and imperceptible. After absorbing the nicotine, people will first feel happy and relaxed. Then they will continue to smoke since the positive feedback that smoking gives them. However, nicotine has certain negative side effects, such as irregular heartbeat, headache, elevated heart rate, and twitching muscles. The symptoms of rapid breathing, seizures, stomach discomfort, and tremors vary depending on the brand of electronic cigarette. According to Truth Initiative, Juul first provided pods with five percent nicotine, which is equivalent to one pack of cigarettes each pod. Other ingredients besides nicotine also contain harm to our bodies. In e-cigarette fluid, researchers have discovered over a hundred different chemicals. The National Academies of Sciences, Engineering, and Medicine conducted a review in 2018 and found that compounds are produced when chemicals are heated and evaporated. Because of reaction of chemical that can occur with or without heating them, these substances can offer substantial health concerns. A 2015 study from Harvard University has shown that the chemical compound that is added in e-liquid in an e-cigarette to make flavor will cause long-term health problems for users. Classic,

Bad Apple, Iced Berry, Banana, Pomegranate, and Tutti Frutti were some of the flavors that were examined. Other flavors were also included in the study. The findings revealed that 47 of the 51 flavors examined contained almost half of flavoring chemicals, including diacetyl, 2,3 pentanedione, or acetoin. [9]. Direct tobacco usage is the cause of more than 7 million of those fatalities. A total of 1.2 million nonsmokers perishes as a result of secondhand smoke exposure [9]. Although not all death is caused by E-cigarette, it still emphasized the damage that smoking makes to our bodies.

2.2 The impact on mental health

Besides the harm E-cigarette have on people's body health, mental health is also damaged by E-cigarette. It was surprising to know that E-cigarette has a connection with cognitive impairments no matter is adult or adolescent. Two sizable populations were found by the University of Rochester Medical Center investigation. According to the first study, which analyzed 18,000 US high school students, adolescents who smoke tobacco or use e-cigarettes have more trouble focusing, remembering, and making decisions. The sooner an individual started vaping, the stronger the relationship was; those who started between eight- and thirteen-year-old were most likely to suffer cognitive issues

The journal tobacco-induced diseases published the findings of this investigation. The second study, which was also published in the journal *Plos* One. The study polled over 800,000 participants, and once again a clear correlation between e-cigarette uses and cognitive problems was found [10]. The second study clearly demonstrates that more people who use vaping than those who do not report having cognitive impairments or brain fog [10]. However, correlation is not caused and effect, there is not straight evidence that vaping causes cognitive impairments. Maybe because of cognitive impairments, people started to vape. Nevertheless, the increasing number of US teenagers using E-cigarette is still a considering issue

3. Withdrawal

After emphasized emphasizing the impact of using E-cigarette, "how could people withdraw from E-cigarette?" is another problem. In order to stop using E-cigarettes, many users turn to already available resources including charge-free quit lines, text message programs, and dependent treatments of specialized tobacco. Among the 74,646 quit line participants recruited between January 2017 – June 2020, the largest quit line operator in the US provide information revealed that 14% of them were using e-cigarettes, and 2% of them were solely using e-cigarettes. So how do those treatments work [11]?

3.1 E-cigarette withdrawal symptoms

When people try to quit e-cigarettes, they will suffer some withdrawal symptoms, as same as trying to withdraw from a traditional cigarette. The cruel reason for folks to start smoking again is due to those symptoms. An escalating contingency payment system was employed to induce 6 days of scientifically confirmed abstinence in 109 daily e-cigarette users, smoking for 7 days, according to a study on e-cigarette withdrawal. For a full week, half of them took a break. The four potential withdrawal symptoms, including anhedonia and positive affect, as well as all of the tobacco withdrawal symptoms listed in the Diagnostic and Statistical Manual, Fifth Edition (DSM-5) increased after abstinence. At the same time as weight increased, heart rate dropped.

3.2 Cognitive Behavior Therapy (CBT)

CBT is a treatment that helps patients to find out what triggers them to smoke and teaches them replace-prevention skills, such as relaxation techniques, and also help them to cope with stressful situation without smoking. A study has found that CBT and basic health education are both good for people to withdraw nicotine [12]. However, a different study discovered that patients who underwent

intense group CBT for six sessions had higher success rates in quitting smoking than those who underwent general health education for six sessions [13].

3.3 Nicotine Replacement Therapy (NRT)

NRT is a variety of ways for people to overcome the early period when they try to quit e-cigarettes. People use some nicotine products, such as nicotine patches and nicotine gum to reduce the sufferings they experience during the withdrawal period. NRTs stimulate the nicotine-targeted receptors in the brain by nicotine and relive the chemical that help people to feel pleasure without using a lot of nicotine [14]. The combination of NRT treatments have found it to be more effective than single NRT treatments in cessation [15].

4. Conclusion

In the beginning, people were exposed to smoking because of environmental factors, social factors, psychological factors and so on and people were exposed to nicotine for too long due to their addiction to cigarettes, which evolved into addiction to nicotine. In the later stage, due to the addictive nature of nicotine, people no longer smoke because of the original addiction of smoking, but because they want to meet the needs of nicotine.

Currently, thousands and millions of people are now suffering of lung cancer and many people now are the potential patients of lung cancer. Many people who have lung cancer are usually caused by smoking. The rate of smoking e-cigarettes is increasing through the generalized of e-cigarettes. Most important, the e-cigarette has become a sign of fashion among teenagers. They use an e-cigarette to show their personality and they even vape when their body is immature, which brings huge harm to their health. Although the governments are paying attention to these problems, it is still not enough for people to use an e-cigarette appropriately. The most potential danger of e-cigarettes is their selling of them. The government has completely prohibited teenagers to buy e-cigarette. Thousands of brands did not show the harm the e-cigarette will have on health. This research is not only trying to inform about the e-cigarette but also trying to raise the attention of the public about the danger of using an e-cigarette.

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