



## IS MARIJUANA A PRECURSOR TO ABUSE OF OTHER DRUGS?

Birendra Kumar Mandal\*

Assistant Professor, Department of Forensic Medicine and Toxicology, Chitwan Medical College, Bharatpur-10, Nepal

\*E-mail: [birendra092@yahoo.com](mailto:birendra092@yahoo.com)

Received on: 15/10/12 Revised on: 23/11/12 Accepted on: 05/12/12

### ABSTRACT

Cannabis is said to be a gateway drug that increases the users' probability of taking up hard drugs like amphetamine or heroin. The empirical basis for the hypothesis is the common finding that most hard drug users have started with less dangerous drugs first and that there seems to be a staircase from alcohol and solvents via cannabis and tablets to amphetamine, cocaine and heroin. Although controversial, the hypothesis has had considerable influence on drug policy and legislation in many countries and has been a powerful argument in debates about legalization or decriminalization of cannabis.

**KEYWORDS:** Cannabis, Gateway drug, Amphetamine, Heroin.

### INTRODUCTION

Marijuana became popular among the general youth population in the 1960s. Back then, many people who would become the parents and grandparents of teenage kids today smoked marijuana without significant adverse effects, so now they may see no harm in its use. Fewer than half of those using marijuana for the first time in the late 1960s were under 18. By 2001, however, the proportion of under 18 initiates had increased to about two thirds (67 percent).<sup>1</sup> According to the National Survey on Drug Use and Health, 95 million Americans age 12 and older have tried "pot" at least once, and three out of every four illicit drug users reported using marijuana within the previous 30 days.<sup>2</sup>

Today's young people live in a world vastly different from that of their parents and grandparents. They have easy access to the Internet, which abounds with sites promoting the wonders of marijuana, offering kits for beating drug tests, and, in some cases, advertising pot for sale. Meanwhile, the prevalence of higher potency marijuana, measured by levels of the chemical delta-9-tetrahydrocannabinol (THC), is increasing. Average THC levels rose from less than 1 percent in the mid-1970s to more than 6 percent in 2002. Sinsemilla potency increased in the past two decades from 6 percent to more than 13 percent, with some samples containing THC levels of up to 33 percent.<sup>3</sup>

On an average day in 2008, 3,695 adolescents 12 to 17 years of age used marijuana for the first time. On an average day in the past year, 563,182 used marijuana.<sup>4</sup> In 2009, an estimated 14.2 percent of past year marijuana users aged 12 or older used marijuana on 300 or more days within the past 12 months. In 2009, there were 2.4 million persons who had used marijuana for the first time within the past 12 months; this averages to approximately 6,500 initiates per day.<sup>5</sup>

### DISCUSSION

The gateway drug theory is the theory that the use of less deleterious drugs may lead to a future risk of using more dangerous hard drugs and/or crime.<sup>2</sup> The gateway hypothesis proposes that cannabis use increases the risk of starting to consume hard drugs.

Both alcohol and tobacco tend to precede cannabis use, and it is rare for those who use hard drugs to not have used alcohol or tobacco first.<sup>6</sup> Data from the 2005 National Survey of Drug Use and Health (NSDUH) in the United States found

that, compared with lifetime nondrinkers, adults who have consumed alcohol were statistically much more likely to currently use illicit drugs and/or abuse prescription drugs in the past year.<sup>7</sup> Effects were strongest for cocaine (26 times more likely), cannabis (14 times more likely), and psychedelics (13 times more likely). In addition, lifetime drinkers were also six times more likely to use or be dependent on illicit drugs than lifetime nondrinkers.<sup>7</sup> A more recent US-Finnish twin study found that those who started smoking tobacco by the age of 12 were 26 times more likely to start using cannabis or other illicit drugs by age 17, compared to those who never smoked. In fact, early tobacco smoking was one of the most powerful predictors of later use of illicit drugs.<sup>8</sup>

A study by researchers attempted to dissect the contribution of genetic, shared environmental and unique environmental influences on the development of dependence on other drugs in those who had used cannabis.<sup>9</sup> The study found that while cannabis was strongly predictive of use of other drugs in the future, the main contributors to this effect were the shared environmental and genetic risk for all substances. However, there was "persisting evidence for some causal influences" of cannabis in the development of other drug dependencies, indicating that the gateway theory could be operative, although not the main cause of the association.

Marijuana is a frequent precursor to the use of more dangerous drugs and signals a significantly enhanced likelihood of drug problems in adult life. A study of 300 sets of twins reported "that marijuana-using twins were four times more likely than their siblings to use cocaine and crack cocaine, and five times more likely to use hallucinogens such as LSD."<sup>10</sup> Adults who were early marijuana users were found to be five times more likely to become dependent on any drug, eight times more likely to use cocaine in the future, and fifteen times more likely to use heroin later in life.<sup>10</sup>

Columbia University's National Center on Addiction and Substance Abuse (CASA) reports that teens who used marijuana at least once in the last month are 13 times likelier than other teens to use another drug like cocaine, heroin, or methamphetamine and almost 26 times likelier than those teens who have never used marijuana to use another drug.<sup>11</sup> Studies on patterns of drug usage among young people show that very few of them use other drugs without first starting

with marijuana. For example, one study found that among adults (age 26 and older) who had used cocaine, 62 percent had initiated marijuana use before age 15. By contrast, less than one percent of adults who never tried marijuana went on to use cocaine.<sup>12</sup>

Healthcare workers, legal counsel, police and judges indicate that marijuana is a typical precursor to methamphetamine. For instance, Nancy Kneeland, a substance abuse counselor in Idaho, pointed out that “in almost all cases meth users began with alcohol and pot”.<sup>13</sup>

One reason the risk factor for using drugs in cannabis users is higher is because few people try hard drugs prior to trying cannabis, not because cannabis users increasingly try hard drugs such as amphetamines. For example, cannabis is typically available at a significantly earlier age than other illicit drugs. Further research has shown that people with a disposition to resort to cannabis use are more likely to live longer and healthier lives than users of other “social drugs” such as alcohol.<sup>14</sup>

In December 2006, a 12 year gateway drug hypothesis study on 214 boys from ages 10–12 by the American Psychiatric Association was published in the American Journal of Psychiatry. The study concluded adolescents who used cannabis prior to using other drugs, including alcohol and tobacco, were no more likely to develop a substance abuse disorder than subjects in the study who did not use cannabis prior to using other drugs.<sup>15</sup>

A study comparing cannabis users in San Francisco to those in Amsterdam was done to test the effects of the differing drug policies in the two cities on drug use patterns. The Netherlands has a drug policy of decriminalization in which cannabis can be bought by adults over 18 in quasi-legal “coffee shops” and used publicly, while in the United States cannabis is criminalized and must be bought in the black market (often from the same dealers that sell hard drugs) and used “underground”. The results found that, compared with their counterparts in Amsterdam the San Francisco cannabis users were significantly more likely to use cocaine, crack, amphetamines, ecstasy, and opiates despite similar cannabis use patterns and a more permissive drug policy in the Netherlands.<sup>16</sup>

Alternative explanations for the correlation between the use of marijuana and the use of hard drugs (e.g., cocaine, heroin) include, but are not limited to:

- Some individuals are, for whatever reason, willing to try any substance, and the “gateway” drugs are merely the ones that are (usually) available at an earlier age than the harder drugs.
- Particularly for cannabis, which is illegal, exposure to the black market (where harder drugs are available) is suggested to be the real cause.
- For teenagers, credibility of adults is eroded when the dangers of the “gateway” drugs are exaggerated or made

up, leading them to think all anti-drug messages are nonsense.

- The peer environments in which “gateway” drugs are used can sometimes overlap with the ones in which harder drugs are used, especially in societies that prohibit the substances or impose very high age limits.

## CONCLUSION

Marijuana gateway effect is one of the best explanations for the link between marijuana use and the use of harder drugs. An alternative, simpler and more compelling explanation like peer environments, willing to try any substance and exposure to black market accounts for the pattern of drug use without resort to any gateway effects.

## REFERENCES

1. MacKesyamiti M, Fendrich M, Goldstein PJ. “Sequence of drug use among serious drug users: typical vs atypical progression”. *Drug and Alcohol Dependence* 1997; 45(3):185–96.
2. Pudney S, 2002. “The road to ruin? Sequences of initiation into drug use and offending by young people in Britain”[Online]. [cited 2012 Sep 15]; Available from: URL: <http://www.crimereduction.homeoffice.gov.uk/drugsalcohol/drugsalcohol62.htm>
3. Harding A. “Pot May Indeed Lead to Heroin Use, Rat Study Shows” Reuters [Online]. 2006 [cited 2012 Oct 25]; Available from: URL: [http://www.justice.gov/dea/docs/marijuana\\_position\\_2011.pdf](http://www.justice.gov/dea/docs/marijuana_position_2011.pdf)
4. “A Day in the Life of American Adolescents: Substance Use Facts Update.” OAS Report [Online]. 2010 [cited 2012 Oct 15]; Available from: URL: <http://store.samhsa.gov/product/A-Day-in-the-Life-of-American-Adolescents-Substance-Use-Facts-Update/OASRPT10-0429>
5. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies “Results from the 2009 National Survey on Drug Use and Health: Vol. I. Summary of National Findings.” September 2010. Page 54.
6. Golub A, Johnson BD. “Variation in youthful risks of progression from alcohol and tobacco to marijuana and to hard drugs across generations”. *American Journal of Public Health* 2001; 91(2):225–32.
7. Illicit Drug Use among Lifetime Nondrinkers and Lifetime Alcohol Users. NSDUH Report [Online]. 2005 [cited 2012 Oct 25]; Available from: URL: <http://www.samhsa.gov/data/2k4/alcDU/alcDU.htm>
8. Early smoking linked to cannabis use [Online]. 2011 [cited 2012 Oct 28]; Available from: URL: <http://www.news-medical.net/news/20110323/Early-smoking-onset-linked-to-higher-risk-of-cannabis-use.aspx>
9. Agrawal A, Neale MC, Prescott CA, Kendler KS. “A twin study of early cannabis use and subsequent use and abuse/dependence of other illicit drugs”. *Psychological Medicine* 2004; 34(7):1227–37.
10. “What Americans Need to Know about Marijuana.” Office of National Drug Control Policy [Online]. 2003 [cited 2012 Oct 27]; Available from: URL: [https://www.ncjrs.gov/ondcpublications/publications/pdf/mj\\_rev.pdf](https://www.ncjrs.gov/ondcpublications/publications/pdf/mj_rev.pdf)
11. “Non-Medical Marijuana II: Rite of Passage or Russian Roulette?” CASA Reports [Online]. April 2004 [cited 2012 Oct 27]; Available from: URL: [http://www.casacolumbia.org/templates/publications\\_reports.aspx?keywords=marijuana](http://www.casacolumbia.org/templates/publications_reports.aspx?keywords=marijuana)
12. Gfroerer Joseph C et al. “Initiation of Marijuana Use: Trends, Patterns and Implications.” Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. July 2002. Page 71.
13. Furber M. “Threat of Meth—‘the Devil’s Drug’—increases.” Idaho Mountain Express and Guide [Online]. 2005 [cited 2012 Oct 28]; Available from: URL: <http://www.examiner.com/article/marijuana-s-gateway-effect-aka-precursor-to-abuse-of-other-drugs>
14. Morgan JJB, Zimmer LE (1997). Marijuana myths, marijuana facts: a review of the scientific evidence. New York: Lindesmith Center.
15. Tarter RE, Vanyukov M, Kirisci L, Reynolds M, Clark DB. “Predictors of Marijuana Use in Adolescents Before and After Licit Drug Use: Examination of the Gateway Hypothesis”. *American Journal of Psychiatry* 2006; 163(12):2134–40.
16. Reinman C, Cohen PDA, Kaal HL. “The Limited Relevance of Drug Policy: Cannabis in Amsterdam and in San Francisco”. *American Journal of Public Health* 2004; 94(5):836–42.

QUICK RESPONSE CODE	ISSN (Online) : 2277 –4572
	Website <a href="http://www.jpsonline.com">http://www.jpsonline.com</a>

### How to cite this article:

Birendra Kumar Mandal. Is Marijuana a precursor to abuse of other drugs?. *J Pharm Sci Innov.* 2012; 1(6): 13-14.