Medical marijuana does not increase adolescent marijuana use

In The Lancet Psychiatry, Deborah Hasin and colleagues\(^1\) review the relationship between US state medical marijuana laws and adolescent use of marijuana. Marijuana is the most commonly used illicit drug, both worldwide and in the USA, where around 19·8 million Americans use it per month.\(^2,3\) Although millions use it for recreational or medicinal purposes, the risks of regular use, including cognitive difficulties, worsening anxiety and mood, as well as addiction, are well documented, especially for adolescents whose brains are still developing.\(^4\) These risks underscore the essential need for sound, evidence-based marijuana policies, when states in the USA are considering laws regulating marijuana decriminalisation, medical marijuana, and legalisation of the recreational use of marijuana. With so much at stake, intense, often emotional, discussions have been taking place both in the USA and globally on these complex issues.

The effect of medical marijuana laws remains a controversial topic in the USA. As of May 2015, 23 US states and the District of Columbia have medical marijuana laws in place that permit the use of marijuana medicinally, under the supervision of physicians, for a wide range of medical indications. Although the scientific rationale for medical marijuana might be debated, many people would agree that the implementation of medical marijuana laws has been complex. Concerns about medical marijuana in the states that have enacted such laws include that access to medical marijuana dispensaries could be difficult, that physicians face challenges in recommending its use to patients, and that the regulations themselves could be either too broad or too restrictive\(^5\) with regard to the recommended quantities of marijuana and the medical indications specified by medical marijuana laws.

Perhaps the main concern of many people opposed to medical marijuana laws is that they will lead to increased general marijuana use, including among adolescents. According to the Monitoring the Future survey,\(^6\) marijuana use is following a trajectory unlike nicotine, alcohol, or opioids: marijuana use among adolescents has actually increased in recent years, while the perception of the risk of marijuana in this group has steadily fallen.\(^6\) If the proportion of adolescent marijuana users who develop addiction remains constant at approximately 17%,\(^7\) then any increases in adolescent use could mean an increased number of adolescents becoming addicted to marijuana as well.\(^7\) Despite these concerns and trends, previous studies examining medical marijuana laws and adolescent marijuana use have not been conclusive. Schuermeyer and colleagues\(^8\) suggested adolescent marijuana use in Colorado increased after medical marijuana laws were passed there compared with states without such laws, whereas two multistate studies\(^9,10\) did not show increased adolescent marijuana use after passage of medical marijuana laws.\(^8\)

In their study, Hasin and colleagues\(^1\) used results from the Monitoring the Future study that includes data from more than one million US adolescents aged 13–18 years in roughly 400 schools in the 48 contiguous states of the USA during a 24-year span. Controlling for individual-level, school-level, and state-level factors, in states with medical marijuana laws the investigators noted no differences in adolescent marijuana use before or after the passage of these laws (adjusted prevalence 16·25% vs 15·45%; adjusted odds ratio [OR] 0·92, 95% CI 0·82–1·04; p=0·185). Adolescent marijuana use was more prevalent in states that enacted medical marijuana laws than in states without these laws (adjusted prevalence 15·87% vs 13·27%; adjusted OR 1·27, 1·07–1·51; p=0·0057), but the fact that medical marijuana laws did not change the prevalence of use suggests that several factors have a role in affecting adolescent marijuana use. Hasin and colleagues postulated, as many would, that the passage of medical marijuana laws would increase adolescent marijuana use by contributing to the declining perception of the potential harms of marijuana. Their well designed, methodologically sound study showed that this was not the case.

This study draws attention to the importance of undertaking rigorous scientific research to test hypotheses and using the results to develop sensible health policies. Policies might sometimes be shaped by preconceived notions that do not end up being true, and Hasin and colleagues’ study\(^1\) is an example of such an occurrence—an easy assumption to make would be that medical marijuana laws would increase access to marijuana, and therefore use among adolescents would
increase, especially in view of the aforementioned trends in use and perceptions of risk. However, the growing body of research that includes this study suggests that medical marijuana laws do not increase adolescent use, and future decisions that states make about whether or not to enact medical marijuana laws should be at least partly guided by this evidence. The framework of using the scientific method to challenge what might be ideological beliefs must remain an important driver of future research on marijuana policy.

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3 Substance Abuse and Mental Health Services Administration. Results from the 2013 national survey on drug use and health: summary of national findings. Rockville: Substance Abuse and Mental Health Services Administration, 2014.


