Study finds link between teen cannabis use and illicit drug use in early adulthood

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One in five adolescents at risk of tobacco dependency, harmful alcohol consumption and illicit drug use:

Researchers from the University of Bristol have found regular and occasional cannabis use as a teen is associated with a greater risk of other illicit drug taking in early adulthood.

The study by Bristol's Population Health Science Institute, published online in the Journal of Epidemiology & Community Health, also found cannabis use was associated with harmful drinking and smoking.

Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC), the researchers looked at levels of cannabis use during adolescence to determine whether these might predict other problematic substance misuse in early adulthood—by the age of 21.

The researchers looked at data about cannabis use among 5,315 teens between the ages of 13 and 18. At five time points approximately one year apart cannabis use was categorised as none; occasional (typically less than once a week); or frequent (typically once a week or more).

When the teens reached the age of 21, they were asked to say whether and how much they smoked and drank, and whether they had taken other illicit drugs during the previous three months. Some 462 reported recent illicit drug use: 176 (38%) had used cocaine; 278 (60%) had used 'speed' (amphetamines); 136 (30%) had used inhalants; 72 (16%) had used sedatives; 105 (23%) had used hallucinogens; and 25 (6%) had used opioids.

The study's lead author, Dr Michelle Taylor from the School of Social and Community Medicine said:

"We tend to see clusters of different forms of substance misuse in adolescents and young people, and it has been argued that cannabis acts as a gateway to other drug use. However, historically the evidence has been inconsistent.

"I think the most important findings from this study are that one in five adolescents follow a pattern of occasional or regular cannabis use and that those individuals are more likely to be tobacco dependant, have harmful levels of alcohol consumption or use other illicit drugs in early adulthood."

In all, complete data were available for 1571 people. Male sex, mother's substance misuse and the child's smoking, drinking, and behavioural problems before the age of 13 were all strongly associated with cannabis use during adolescence. Other potentially influential factors were also considered: housing tenure; mum's education and number of children she had; her drinking and drug use; behavioural problems when the child was 11 and whether s/he had started smoking and/or drinking before the age of 13.

After taking account of other influential factors, those who used cannabis in their teens were at greater risk of problematic substance misuse by the age of 21 than those who didn't.

Teens who regularly used cannabis were 37 times more likely to be nicotine dependent and three times more likely to have a harmful drinking pattern than non-users by the time they were 21. And they were 26 times more likely to use other illicit drugs.

Both those who used cannabis occasionally early in adolescence and those who starting using it much later during the teenage years had a heightened risk of nicotine dependence, harmful drinking, and other illicit drug use. And the more cannabis they used the greater was the likelihood of nicotine dependence by the age of 21.
This study used observational methods and therefore presents evidence for correlation but not does not determine clear cause and effect - whether the results observed are because cannabis use actually causes the use of other illicit drugs. Furthermore, it does not identify what the underlying mechanisms for this might be. Nevertheless, clear categories of use emerged.

Dr Taylor concludes:

"We have added further evidence that suggests adolescent cannabis use does predict later problematic substance use in early adulthood. From our study, we cannot say why this might be, and it is important that future research focuses on this question, as this will enable us to identify groups of individuals that might as risk and develop policy to advise people of the harms.

"Our study does not support or refute arguments for altering the legal status of cannabis use—especially since two of the outcomes are legal in the UK. This study and others do, however, lend support to public health strategies and interventions that aim to reduce cannabis exposure in young people."

**More information:** Patterns of cannabis use during adolescence and their association with harmful substance use behaviour: findings from a UK birth cohort, [DOI: 10.1136/jech-2016-208503]

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