Medical Marijuana: A Survey of Teenagers and Their Parents

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Summary: Parents and their teenage children were questioned about medical marijuana and whether they believed that passage of medical marijuana laws in their states would increase teenage use of marijuana for non-medical purposes. A 24-question written survey was distributed separately to teenager/parent pairs who visited 1 of 2 suburban general pediatric offices located in Vienna, Virginia or Mason, Ohio. Completed surveys were collected from 393 parent-teen pairs. Only 13% of the teenagers admitted to ever smoking marijuana while 6% admitted smoking it in the past 30 days. There was good agreement between parents and teens (81% of parents and 76% of their teenagers who responded to the survey) that regular use of marijuana causes harm to many or most users, not just “potheads.” Although there was close agreement in the range of opinions about medical marijuana (i.e., from liberal use to no use) by parents as a group and the teens as a group, agreement between the answers of parents matched with their own children was poor based on K-coefficient analysis (K=0.20). Twenty-eight percent of the parent group and 55% of the teenagers believed that passage of state laws for medical marijuana would make it easier for teens to smoke marijuana for medical purposes. Clin Pediatr. 2003;42:547-551

Introduction

Medical marijuana has been legalized or permitted in the Netherlands, Belgium, Portugal, Switzerland, and Canada.1 Voters in 9 states (Alaska, Arizona, California, Colorado, Hawaii, Maine, Nevada, Oregon, and Washington) as well as the District of Columbia have passed medical marijuana referenda.1 During the 1999 to 2000 state legislative sessions, legislators from 17 states proposed medical marijuana laws.2 Based largely on studies with synthetic tetrahydrocannabinol (THC; dronabinol), which, since 1985, has U.S. Food and Drug Administration (FDA)-approval for selected medical use, 2 generally recognized uses for medical marijuana have some peer-reviewed scientific support; i.e., to combat nausea and vomiting from emetogenic cancer chemotherapy, and to stimulate appetite in patients with acquired immuno-deficiency syndrome (AIDS) wasting syndrome. Medical marijuana is believed to be ef-
effective medicine by some individuals with open-angle glaucoma, by individuals with epilepsy, by those with muscle spasticity from multiple sclerosis or spinal cord injury, and as an effective analgesic for migraines headaches and other painful afflications. For patients with chronic incurable conditions such as glaucoma or multiple sclerosis, marijuana is smoked every day, throughout the day, for several years or for life.

There are no reports of adult fatalities caused directly by marijuana use and as such the drug is said to be uniquely safe. Passage of state medical marijuana laws would remove criminal penalties for seriously ill patients who use it and for their physicians who prescribed it. Such laws could provide adjuvant-free potent medical grade marijuana at a fair price, in safe surroundings. Advocates for medical marijuana proclaim that synthetic THC, which is available by prescription, is less effective than smoked marijuana. Smoked marijuana is also said to be more easily titrated than synthetic THC.

Who can obtain medical marijuana and how much can be purchased? State medical marijuana laws usually permit possession of 28 g or more of marijuana by individuals who suffer from cancer, glaucoma, or AIDS. Many state laws permit those with medical exemptions to grow 3 to 6 cannabis plants for personal use. Several states (California, Washington State) do not impose any age restrictions on the use of medical marijuana below which use is prohibited. None of the state laws include an “emergency brake” system to curtail medical marijuana use if the laws passed for compassionate reasons lead to unforeseen adverse consequences in terms of a dramatic overall increase in recreational use of marijuana.

The study sites were at private pediatric practices in northern Virginia and suburban Cincinnati, Ohio. The purpose of this study was to learn about the opinions of teenage patients and their parents regarding medical marijuana.

Study Population and Study Design

A 24-question, multiple-choice, written survey was formatted, modified by experts in adolescent medicine and survey formatting. Study design and survey instrument were approved by the chairman of the Inova-Fairfax Hospital Institutional Review Board (IRB). There were no ethical or technical objections and the study received the chairman’s approval without the requirement of formal board review. There were 2 survey forms, 1 for teenager patients and another for their parents. The questions about medical marijuana on the 2 forms were similar and covered recollections of parent/teen discussions about medical marijuana and legalization of drugs, and the lifetime use of marijuana by the teenager and parent respondents. In addition, the following 2 questions were asked verbatim:

Teen Q21: California recently passed a law allowing doctors to prescribe smoked marijuana to relieve suffering from certain illnesses. In your opinion, will teenagers your age interpret this law to mean that it is Okay for them to smoke marijuana if they are sick?

a) Yes b) No c) Undecided

Teen Q23: In your opinion, would the passage of a similar law in Virginia (or in Ohio for surveys distributed at that site) make it easier for teens to start to smoke marijuana for fun?

a) Yes b) No c) Undecided

The questionnaire was pilot tested on a small group of adolescents. The modified survey was distributed at pediatric practices located in Vienna, Virginia, a suburb of Washington DC, or Mason, Ohio, a suburb of Cincinnati. Respondents were promised anonymity and confidentiality in a written statement explaining the study. Acceptance of the survey was based on verbal permission from the parent and teen. The office receptionists were instructed to inform the parents and teenagers that they were to complete the surveys seated separately from each other. The receptionists exercised oversight in this regard to prevent parents and their teenagers from discussing their respective responses until their surveys were placed in the ballot box. In the Virginia site, consecutive adolescent patient/parent dyads answered the survey. In the Ohio site, enrollment was more selective and occurred as time permitted (convenience survey). The teenagers came to their pediatrician’s office in the late spring through the early fall of 1999 for annual health assessments or for illness-related visits. Completed surveys were folded and inserted into a “ballot box.” For their cooperation, participating teens earned an unused $2.00 bill. Approximately 7% of consecutive teenagers and/or their parents from the Virginia site refused to participate and an estimated 30% from the Ohio site did not
participate for various reasons. Surveys from the Ohio site were sent by United Parcel Service to the Virginia site where complete parent/teen surveys were collated. Whenever an unaccompanied teenager arrived, the parent survey was inserted into an unmarked envelope and the teenager was instructed to give it to a parent to complete and have the parent mail it to the office. Answers from the 2 sites were compared. A question-by-question comparison revealed no significant differences so the results from the 2 sites were combined. Parent/teen surveys were matched using the last 4 digits of the family's home telephone number. The demographic composition of the parents in the 2 practices was similar and mostly white and middle class. The adolescents ranged in age from 13 to 19 years.

Statistical Analysis

Paired responses were entered into a computer program, reviewed for accuracy, and analyzed using SAS software (v6.12, SAS Institute, Cary, NC). Kappa coefficients and 95% confidence intervals were calculated according to the method of Cohen. Kappa values of 0.00 to 0.39 indicated slight agreement, values of 0.40 to 0.79 indicated moderate agreement, and values of 0.80 to 0.90 indicated excellent agreement. The Cochran-Armitage test was calculated to detect any trend in responses of teenagers on the basis of age. If the count in any cell of a contingency dropped below five, exact measures were calculated. A type-I error of 0.05 was considered to be statistically significant. Fisher's exact test was used to compare answers from the whole group of teen respondents versus the group of parent respondents.

Results

Completed surveys were collected from 393 adolescent-parent pairs: 78% (305) from Virginia pediatric practice and 22% (88) from the Ohio site. Fifty-two percent (203/393) of the teens were male. Sixty-two percent (244) of the teenagers were 13 to 15 years, 30% (116) were 16 to 17 years, and 8% were 18 to 19 years. Eighty-four percent (329) of the teen respondents lived with both biologic parents, 8% lived with one parent, and the remaining 8% lived with ‘other.’ The teen respondents did well in school: 38% (150) and 48% (187) had ‘A’ or ‘B’ grade point averages (GPA), respectively, and only 2% had a ‘D’ GPA. Ten percent (41) of the teens smoked marijuana at least once and 6% (24) smoked it in the previous 30 days. Lifetime use of marijuana was 27% (105) of the parent respondents. None of the parents admitted to current use of marijuana. Eighty-one percent of parents vs. 76% of their teens believed that regular marijuana use causes harm to many or most users. Although 99% of parents and 87% of teen responders agreed that medical marijuana and legalization of drugs of abuse should be topics discussed by parents and teens, only 41% of the parent responders and 46% of the teen group recalled having done so in their own families. Twenty-eight percent of 389 parents vs. 57% of 389 teens believed that the passage of state laws for medical marijuana would make it easier for teens to start smoking marijuana for fun (Fisher’s exact test, p<0.0001). There was weak agreement between paired parent-teenage child’s answers to this question. The teens who answered the question in the affirmative tended to be younger (Cochran-Armitage Test for trend, p<0.03), female (Fisher’s exact test, p=0.04), and have a GPA of C or less (Cochran-Armitage Test for Trend, p=0.02). Table 1 shows the range of responders’ support for medical marijuana initiatives. Table 2 shows the opinions of the parent group and the teen group and the K-coefficient comparing answers of each parent/teen dyad regarding the likely effect of passage of medical marijuana referenda in their respective states. Tables 1 and 2 show some agreement between the group answers of the parent responders vs. the group answers of teen responders for several questions. However, agreement between matched parent/teen dyads for the same questions was poor. Twenty-eight percent of the parent group vs. 55% of the teen group believed that passage of state referenda on medical marijuana would make it easier for teens to smoke marijuana for recreational purposes.

Discussion

The findings in this 1999 pilot study are limited to teenagers and their parents who attended two middle-class, suburban pediatric practices. The teen respondents were generally academically successful, with only a small percentage earning less than an “A” or “B” GPA. Lifetime use of marijuana was much lower than the national averages for this age group. If the same survey were conducted in a rural or urban area, it might yield different results. Although parents and teens
Table 1

<table>
<thead>
<tr>
<th>Spectrum of Medical Marijuana Use</th>
<th>Parents as a Group</th>
<th>Teens as a Group</th>
<th>Matched Pair Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberalized use</td>
<td>32%</td>
<td>30%</td>
<td>15% (0.20)*</td>
</tr>
<tr>
<td>Serious illness</td>
<td>16%</td>
<td>16%</td>
<td>4%</td>
</tr>
<tr>
<td>Very restricted use</td>
<td>31%</td>
<td>25%</td>
<td>12%</td>
</tr>
<tr>
<td>Total opposition to medical use</td>
<td>21%</td>
<td>19%</td>
<td>8%</td>
</tr>
<tr>
<td>Undecided</td>
<td>0.3%</td>
<td>11%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Poor agreement.

Table 2

<table>
<thead>
<tr>
<th>Effect of State Referendum on Medical Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your state, passage of medical marijuana referendum:</td>
</tr>
<tr>
<td>Would be interpreted by teens to mean medical marijuana is an acceptable treatment for ill teens</td>
</tr>
<tr>
<td>Would mean it would be easier for teens to start to smoke marijuana recreationally</td>
</tr>
</tbody>
</table>

*Poor agreement.

were separated during the completion of the survey, it is possible that the teens were inhibited from answering truthfully about their own marijuana use. The Ohio site did not enroll consecutive teen/parent pairs, although the answers from both sites were remarkably congruent.

Marijuana, mostly as an infusion or solution, has been used as medicine for more than a millennium.28 If reclassified by the FDA for medical use, marijuana would be the first approved medicine to be administered primarily by smoking a drug. Medical marijuana laws include its use in the treatment of “serious,” “life-threatening,” or “debilitating” illnesses. In an expanded list, Grinspoon believes that there are more than 2 dozen symptoms and syndromes for which marijuana has been found useful by case histories and clinical experience.8 Patients for whom the standard, legal drugs are not safe or effective are said to be “left with two terrible choices”: 1) “continue to suffer,” or 2) “obtain marijuana illegally and risk arrests, fines, and criminal records.”9 Marijuana is said by proponents be less dangerous than many other approved drugs.10,11 California Proposition 215 allows medical marijuana to be used for “arthritis, migraine headache, and any other illness for which marijuana provides relief.” The Washington State Initiative 692 allows use of medical marijuana for inflammatory bowel disease, arthritis, cancer, or for intractable pain. Colorado, Article 18, Section 14, amendment to the State Constitution allows medical marijuana for: “Any chronic or debilitating disease or medical condition or treatment for such conditions which in the opinion of the patient’s physician may or may not be alleviated by the medical use of marijuana.” Soon after the Alaska medical marijuana law was passed, Alaska Petition ID:991 “Hemp Bill Legalizing Hemp (Marijuana)” was drafted. This bill would have broadened medical uses of marijuana to include “treatment of any disease, and for any healing purpose including its use as an antibiotic, or as an adjunct to herbal treatment.” This bill was defeated soundly. After the medical marijuana referendum was passed in Oregon, a physician was responsible for 40% of all medical marijuana prescriptions (890/2,351) written in that state without proper documentation of need or physical examination of patients.12

A profile of 100 clients of the defunct San Francisco medical marijuana club, which counted 8,500 members before it was closed by court order, has been
published. Less than 10% of the 3 groups had cancer of some type. Less than 5% of patients smoked medical marijuana to reduce glaucoma-induced elevated intraocular pressure or to treat symptoms of multiple sclerosis. Conclusions from this pilot study are probably not representative of other socioeconomic groups, inner city pediatric practices, or responses from teen/parent dyads in rural areas. Self-reporting of sensitive data such as previous use of marijuana has certain limitations that could affect results. Should medical marijuana laws be passed in Virginia or Ohio, teenage respondents from suburban private pediatric practices were twice as likely to predict an increase in teenage recreational marijuana use as their parents. If confirmed by additional surveys in other regions, states considering medical marijuana laws have a duty to closely monitor for possible increases in nonmedical (recreational) use of marijuana by young teenagers.

REFERENCES
1. Available at: www.marijuana.com, accessed 6/1/03.
2. Available at: www.aornml.org, accessed 6/1/03.