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Teen Use of Marijuana Edibles: A Focus Group Study of an Emerging Issue

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Abstract

Recent research indicates that marijuana-infused food product (i.e., edible) use is becoming nearly as common as smoking marijuana where medical marijuana is available. This study explores edible use among teens. We conducted four focus groups in the San Francisco Bay Area with youth, ages 15-17. The focus groups were divided by gender and whether they used marijuana. Some teens mentioned edible use at school. Youth reported that teens consume edibles, primarily to reduce the likelihood of getting caught. Edibles are also attractive to those who do not like to smoke or have concerns about smoking. Both male and female respondents suggested that females are more likely than males to prefer edibles over smoking, one reason for which may be to avoid smelling like marijuana smoke. For some young women, edibles may be a way to avoid publicly presenting themselves as marijuana users. Findings also suggest that youth have access to edibles through multiple sources. Youth reported that they can purchase edibles at school from other students who either make the edibles themselves or are reselling edibles obtained from dispensaries. Both users and non-users were aware of potentially negative consequences related to edible use. Some youth mentioned that they have heard of youth dying from edibles, and several reported being concerned about the high produced by edibles. Female non-users appeared to be more concerned than others about edibles and compared them to drinks that could be spiked with drugs. However, sentiment among some male marijuana users was that if you cannot handle edibles you should not be using them. These findings suggest that strategies to curb access to edibles and use among youth, such as restricting sales of edibles with strong youth appeal and educating youth on the risks of edibles, will need to be developed.

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Conflict of Interest

The authors have no conflicts of interest.

Keywords

Youth; Marijuana; Edibles; Marijuana-infused products; Dispensaries

Introduction

With the rapidly changing legal status of marijuana, food products such as cookies, brownies, and candies infused with marijuana or hashish (i.e., edibles) are becoming increasingly available. According to the Colorado Cannabis Chamber of Commerce, sales of infused edibles constitute about 45 percent of the legal marijuana marketplace (Denver Post, October 2014). A national survey of teens found that in states with medical marijuana laws, 40% of 12th graders who reported using marijuana in the past year said they had consumed edibles, relative to 26% in states without legalized medical marijuana (Johnston et al., 2014).

Use of edibles by youth can be problematic. When ingested, THC, the most potent psychoactive cannabinoid, is absorbed more slowly into the bloodstream than if smoked and absorption can take 1 to 3 hours (Huestis, 2007). As a result, the long lag before experiencing the high may result in inadvertently consuming an excessive amount of marijuana while waiting. In addition, the THC in edibles can interact with other drugs in the body because the liver is involved in metabolizing the THC, unlike inhaled THC that directly affects the brain. To date, we know little about edible use by youth. This study presents findings about edible use, including access and perceived risk, collected from focus groups conducted with teens about marijuana use in California. In California, medical marijuana, including marijuana-infused edibles, is legal and can be purchased at medical marijuana dispensaries for those with a medical marijuana card. With a doctor's recommendation, adults (18+) and minors (under 18) with their parents' permission can obtain medical marijuana cards (California Department of Public Health, 2016).

Methods

We recruited high school teens aged 15 to 17 to participate in four focus groups in the San Francisco Bay Area (see Table 1 for focus group size and composition). We divided focus groups by gender and marijuana use status. Notices about the focus groups were posted online (e.g., Craigslist, youth-oriented websites), as well as at community centers, and libraries. In addition, fliers were handed out near schools. The notices described the study, the incentive offered (\$120), and provided a telephone number where interested youth could leave their contact information. Interviewers called teens and screened them for eligibility (e.g., appropriate age range, gender, race/ethnicity, and marijuana use), after obtaining parental consent. Their level of marijuana use was obtained by asking three questions: "Have you ever smoked marijuana?" (yes/no); "In the last year, have you smoked marijuana more than once?" (yes/no); and "In the last year, have you smoked marijuana more than 12 times?" (yes/no). Youth who answered that they had never used marijuana were recruited for the non-user focus groups. Youth who answered that they had smoked marijuana at least once were eligible for the user groups. We attempted to have a mix of occasional and regular users in the focus groups. In addition, selection of participants focused on recruiting a

racially and ethnically diverse sample. The purpose of the focus groups was to learn more about marijuana practices, including edible use and perceptions about marijuana in order to develop a smartphone app aimed at reducing risky marijuana use. We obtained verbal consent from parents/legal guardians and written assent from the teens. Each focus group lasted 1.5 hours. All study procedures were approved by our Institutional Review Board.

The questions posed to the focus groups concentrated primarily on smoking marijuana and consuming edibles, and less on other methods of marijuana use (e.g., vaping). We transcribed audio recordings of the focus groups verbatim and then imported them into ATLAS.ti (Muhr, 2009). The data were coded and analyzed using qualitative content analysis (Hsieh & Shannon, 2005), as informed by the principles of grounded theory (Corbin & Strauss, 1990) for the inductive development of study findings. One team members coded the transcripts using a codebook that was created iteratively by the team. The final codebook that resulted from iterative review of the data incorporated a priori codes created in conjunction with the focus group questions, memos highlighting points of interest, code families grouping related topics, and open coding identifying subjects, subject categories, and emergent themes. Brief quotations illustrate some of the prominent and recurring themes.

Results

Why do youth use edibles?

Youth reported that even though users mostly smoke marijuana, some teens consume edibles to reduce the likelihood of getting caught at school. One youth explained: “So you can eat your brownie in class [and] the teachers don't even know. You're just eating a brownie. They're not gonna snatch it out of your hand and smell it.” Edibles are also a “go-to” for those who do not like to smoke or have concerns about smoking. One male user explained that some may be concerned about rolling paper causing cancer of the lips. Some females may also prefer to use edibles. A female non-user observed that “most people at my school, the men would actually smoke but sometimes it would be that the girls eat brownies.” Some male users reinforced this notion, indicating that “the majority of the people who like edibles are the females at school,” with one teen suggesting that some female users preferred edibles because they were “too afraid to smoke. They don't want that smell on them.” While female users described edible use as a choice to minimize the risk of discovery at school, they also observed that smoking is “different for a girl because people think ‘oh she's a baddie.’” Some teens described aspects of marijuana use related to smoking as “stinky” and “unattractive,” with male users suggesting that abstaining from marijuana use was “attractive... if it's coming from a female.”

Where do youth get edibles?

Youth reported that edibles can be purchased at school from other students who either make the edibles themselves or resell them after obtaining them from a dispensary. For example, one female user reported that a girl at her school sells marijuana-infused cupcakes for \$5 each. One male non-user said that several students in his culinary class at school are there to learn how to cook in order to be able to produce edibles. When asked how youth manage to

make marijuana-infused butter (canna butter, which is often used to produce baked goods), some teens reported that teens either make their own or are able to access butter purchased from dispensaries. One young woman noted that some teens at her school have access to edibles from dispensaries through their older siblings who have medical marijuana cards. Some youth considered edibles from dispensaries safer and sometimes preferable because they are “tested and done right.” However, teens also acknowledged that the cost of edibles from dispensaries was higher, which is why some teens made their own. One of the trade-offs with homemade edibles may be taste, as one youth reported who had a brownie, which “[didn’t] taste like brownies should taste.”

Do youth perceive edible use as risky?

Both users and non-users reported that they have heard of youth dying from edibles. One youth said: “You could die from edibles. I don’t know somehow, I hear stories of people dying from edibles...There’s not news of kids dying from smoking.” Some youth expressed concerns about home-made edibles. One female non-user explained: “The weed gets you high off of smoking but a lot of people die off of edibles, especially if you buy [homemade] edibles. I know a lot of kids at my school, they make edibles at home and they’ll sell them at school.” Another teen explained that “if you buy [edibles] at school, you don’t know how high the dosage is so you don’t really know how much to eat.” Teens, particularly non-users, offered a range of tales of edibles-related deaths that may have circulated in the wake of a real case in Colorado in which a teen jumped from a hotel balcony after consuming six times the recommended dosage of a marijuana-infused cookie (CBS News, 2014). However, sentiment among some male marijuana users was that the teen who died after using edibles was at fault, stating, “If you can’t handle what you’re doing, you shouldn’t be doing it.”

Several youth reported being concerned about the high produced by edibles. One female marijuana user said “I don’t really do edibles because it means really being gone. My friend gave me half a brownie and I was gone all day.” Female non-users appeared to be more concerned than others about edibles and compared them to drinks that could be spiked with drugs. One female non-user explained: “Once you already have it inside you, you can’t do anything about it, and then something bad happens and the next day you don’t remember... but I think it’s easier to just smoke it instead of eating it... because you know what you’re getting.” Another female non-user mentioned that someone could provide edibles as a prank, telling someone that a brownie is a regular brownie when it is actually infused with marijuana. One female non-user’s story of an acquaintance who may have been raped after she and some friends “were drinking and they gave her a brownie” highlighted similarities between apprehensions about consuming marijuana in edibles and concerns about the use of ‘date rape’ drugs such as GHB in drinks. Teens’ perceptions of the pros and cons of edible use are summarized in Table 2.

Discussion

Edibles constitute an emerging product with potentially dangerous effects on youth. Youths’ responses indicate that edibles can be obtained from multiple sources in addition to medical dispensaries. Youth viewed edible use as less risky than smoking marijuana at school

because edibles do not have a strong smell and are therefore less likely to draw unwanted attention. Some girls may prefer edibles. These perceptions of young women's use are congruent with other research suggesting that both substance use in general and smoking in particular pose a threat to culturally approved public images of women (Nichter et al., 2006; Sanders, 2012). For some young women, edibles may be a way to avoid publicly presenting themselves as marijuana users. Differing perceptions of young men and young women may therefore influence the contexts in which they use edibles. Though many youth had heard of teen deaths related to marijuana edibles, users were generally not concerned and felt that youth who could not handle edibles should not be consuming them. Non-users, especially girls, expressed concern about edible use.

This focus group study has a number of limitations, including the lack of quantifiable data about marijuana and edible use in our sample of youth, and that the sample, in addition to being small, may not be representative of teens. Even though we asked the same questions in all focus group discussions, as is the case with other qualitative data collection methods, those questions can be interpreted in various ways by respondents. As a result, the focus groups differed in how much time was spent discussing edible use and access. Furthermore, as part of the recruitment process, we asked youth about frequency of marijuana use, but not specifically about edibles. Therefore, we do not know how many participating youth had consumed edibles.

In spite of these limitations, this research provides important preliminary insights. Edibles are seen as having distinctive advantages (especially by females) and distinctive risks. These findings may be used to inform future quantitative and qualitative research, and the development of interventions. For example, interventions could restrict the sale of edibles with strong youth appeal, e.g., lollipops, candy, brownies and cookies or make them visually distinctive so that it would be more difficult for youth to consume at school. Furthermore, youth should be educated about the risks of edible use, in particular, the dangers of consuming excessive amounts of THC.

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References

- California Department of Public Health. Medical Marijuana Program Frequently Asked Questions. 2016. Retrieved from <https://www.cdph.ca.gov/programs/MMP/Pages/MMPFAQ.aspx#26>
- CBS News. Two Denver deaths tied to recreational marijuana use. Apr 18. 2014 Retrieved from <http://www.cbsnews.com/news/two-denver-deaths-tied-to-recreational-marijuana-use/>
- Corbin JM, Strauss A. Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*. 1990; 13(1):3–21.
- Denver Post. Proposed Colorado marijuana edibles ban shows lingering pot discord. Oct 20. 2014 Retrieved from http://www.denverpost.com/news/ci_26765732/proposed-colorado-marijuana-edibles-ban-shows-lingering-pot?source=infinite
- Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005; 15(9):1277–1288. [PubMed: 16204405]

- Huestis MA. Human cannabinoid pharmacokinetics. *Chemistry & Biodiversity*. 2007; 4:1770–1804. [PubMed: 17712819]
- Johnston, LD.; Miech, RA.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE. Dec 16. 2014 Retrieved from http://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future/monitoring-future-survey-overview-findings-2014#_ftnref1
- Muhr, T. ATLAS.ti (qualitative analysis support software), Version 5. Scientific Software; Berlin: 2009.
- Nichter M, Nichter M, Lloyd-Richardson EE, Flaherty B, Carkoglu A, Taylor N. Gendered dimensions of smoking among college students. *Journal of Adolescent Research*. 2006; 21(3):215–243.
- Sanders JM. Use of mutual support to counteract the effects of socially constructed stigma: Gender and drug addiction. *Journal of Groups in Addiction & Recovery*. 2012; 7(2-4):237–252. <http://doi.org/10.1080/1556035X.2012.705705>.

Table 1

Focus group participants' characteristics

	Total (n = 39)	Male Users (n = 9)	Female Users (n = 8)	Male Non-Users (n = 11)	Female Non-Users (n = 11)
African American	51% (20)	67% (6)	38% (3)	36% (4)	64% (7)
Asian	10% (4)	--	13% (1)	18% (2)	9% (1)
Hispanic/Latino	18% (7)	22% (2)	13% (1)	9% (1)	27% (3)
Multi-Racial	10% (4)	11% (1)	25% (2)	9% (1)	--
White	10% (4)	--	13% (1)	27% (3)	--
Mean age (<i>SD</i>)	15.2 (1.36)	15.4 (1.42)	15.1 (1.19)	14.8 (.87)	15.3 (1.19)

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Table 2

Teens' perceptions of pros and cons of edibles

Pro Edible Use	Con Edible Use
- No smell, no smoke (4)	- Do not know what is in homemade edibles (2)
- Smoking is unattractive for girls (2)	- Could be spiked with something else (2)
- Lower risk of getting caught at school (4)	- Homemade edibles can taste bad (2)
- Lower risk of lip cancer (1)	- Do not know the dosage of edibles (especially homemade) (4)
	- Can kill you (3)
	- High can be very intense and long lasting (4)
	- Could pass out and get raped (1)

Note: in parentheses is the number of focus groups where each theme was mentioned