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“It Takes Longer, but When It Hits You It Hits You!”: Videos About Marijuana Edibles on YouTube

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Abstract

Background—Interest in marijuana edibles has increased as perceptions of harm from marijuana have decreased. Media and peer influences impact youth substance use, and YouTube is the most popular video-sharing website. No studies have examined the content and accessibility of YouTube videos related to marijuana edibles.

Objectives—To describe the messages conveyed to viewers in YouTube videos about edibles and determine their accessibility to youth.

Methods—On June 12, 2015, we searched YouTube for videos about marijuana/cannabis/weed edibles. A total of 51 videos were coded for presence of an age restriction, purpose(s) of the videos, consumption of edibles during the video, effects, and safety concerns.

Results—Total views across all 51 videos were >9 million. Only 14% (7/51) were restricted to viewers over the age of 18 years. Over half (27/51, 53%) were informative videos, most (20/27, 74%) teaching how to make edibles, and 37% (19/51) were entertaining videos. Someone consumed an edible in 31% (16/51) of the videos, and the type of high was mentioned in 51% (26/51) of the videos, including delayed (18/26, 69%) or intense high (13/26, 50%). Fifty-five percent (28/51) mentioned delta-9-tetrahydrocannabinol potency or dosage. Only 10 of these (36%) presented this information specifically as a warning to prevent adverse effects.

Conclusions/Importance—Edibles-related videos are easily found on YouTube, often instructing how to bake your own edibles and lacking information needed for safe consumption, and most are not age-restricted. Videos showing how to make edibles or presenting edibles use in an entertaining way that could influence youth to initiate use.

Keywords

Marijuana; edibles; social media; content analysis; YouTube

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

As perception of risk from marijuana use has decreased and support for legalization has risen in recent years in the United States (Johnston, O'Malley, Miech, Bach-man, & Schulenberg, 2015; Pew Research Center, 2015), products such as marijuana-infused edibles have become more accessible and possibly more popular. In 2014, 16% of current adult marijuana users in the United States had ingested marijuana in edibles (Schauer, King, Bunnell, Promoff, & McAfee, 2015). Furthermore, in 2014, among 12th graders who used marijuana in the past year, the percentage that reported consuming edibles was 40% in medical marijuana states and 26% in non-medical marijuana states (National Institute on Drug Abuse, 2014). Correspondingly, in states where marijuana use is legal, the edibles' industry is booming. In Colorado, 4.8 million marijuana edibles were sold in 2014 (Brohl, Kammerzell, & Loski, 2015), comprising 40% of the \$700 million in the state's marijuana sales (Weiss, 2015). As more states continue to legalize marijuana use, the demand for marijuana-infused edibles can be expected to rise.

Although marijuana-infused edibles may be popular because of the ability to experience the effects of marijuana without smoking, there are still health concerns. Manufacturers produce and package edibles similar to popular candies and confections, making them attractive to young people (MacCoun & Mello, 2015). In spite of the consumption of recreational marijuana being prohibited to those aged less than 21 years, the appeal of edibles to youth could lead to the increased likelihood of an earlier initiation as well as more frequent use (MacCoun & Mello, 2015). Another concern is over-consumption due to confusion regarding necessary dose/portion size, or the delay in time for a single dose to take effect. Accurate labeling of the delta-9-tetrahydrocannabinol (THC) content, the psychoactive compound in marijuana, on the packaging can help prevent overdose; however, a study of the THC content of 75 edibles purchased in three major metropolitan areas in the United States found that 23% had under labeled the THC content (Vandrey et al., 2015). Higher doses of THC can produce panic, anxiety, and psychosis (Hall & Solowij, 1998). In fact, at least one death has been linked to a psychotic episode following intoxication from marijuana edibles (Hancock-Allen, Barker, VanDyke, & Holmes, 2015).

Media and peer influences are some of the most important factors affecting substance use among young people (Allen, Chango, Szwedlo, Schad, & Marston, 2012; Salimian, Chunara, & Weitzman, 2014; Waylen, Leary, Ness, & Sargent, 2015). YouTube is the most popular video-sharing website, and includes both originally created videos and shows/video clips from television. According to online research services, online entertainment may even be rivaling regular television viewing among young people, as teens spend 1.15 h watching online television daily (McGrath, 2015). In 2014, YouTube was rated the top site to watch video content, reaching more young adults than any single cable television network (Guimaraes, 2014). Accordingly, some researchers have begun to examine health behaviors and substance use messages conveyed on this popular platform. Prior YouTube studies have documented the messages in videos related to tobacco, e-cigarettes, and alcohol (Carroll, Shensa, & Primack, 2013; Elkin, Thomson & Wilson, 2010; Forsyth & Malone, 2010; Freeman & Chapman, 2007; Primack, Colditz, Pang, & Jackson, 2015; Romito, Hurwich, & Eckert, 2015). A prior study of YouTube videos about dabbing marijuana concentrates highlighted the instructional messages, product reviews, and videos showing people using this potent form of marijuana, sometimes heavily (Krauss et al., 2015). Exposure to such

videos could influence one's own behavior, because, as is posited by social cognitive theory (Bandura, 1986), learning about behaviors happens in a social context where individuals observe and model others, taking note of positive and negative consequences of the behavior. In the current age of digital technology, this observational learning can easily take place through social media.

Since marijuana edibles are becoming increasingly popular, it is expected that edibles-related videos can be easily found on YouTube. However, no studies to date have investigated the broadcasted information surrounding edibles on this popular platform. We explored the content of a sample of the most relevant and popular YouTube videos about edibles to uncover the information and imagery being communicated to viewers, including potential risks and benefits of consuming edibles as well as the ease at which youth can access these videos.

Methods

The Washington University in St. Louis Human Research Protection Office reviewed this project and granted the study a non-human subjects' determination, which indicates that the research does not involve activities that are subjected to Institutional Review Board (IRB) oversight.

Study sample

On June 12, 2015, we searched YouTube for videos related to marijuana edibles using the terms "marijuana edibles," "cannabis edibles," and "weed edibles." For each search term, we sorted once by relevance (the default search method based on YouTube's algorithm which determines how closely connected the video is to the search query) and once by view count (most viewed videos in order from greatest to least). The first 20 videos were collected for each search term and sorting method; this is consistent with market research that shows that Internet users usually do not scroll beyond the first page of search results (Chitika Inc., 2013). This resulted in a total of 120 videos. After removing duplicate videos, 54 videos were left. Of the 54 videos that were collected, three were then excluded because they were not about marijuana edibles (two videos) or were not available for viewing (one video). This resulted in a total of 51 videos for analysis.

Measures

Video and channel characteristics

For each video, we recorded the video title and web address. To inform popularity and engagement with the videos, we documented the number of views and number of comments for each video. To supplement our original data collection from June 12, 2015 to April 21, 2016, we recorded the number of "likes" and "dislikes" for each video; on a video's site, a viewer may opt to click on a "thumbs up" icon to indicate that they liked the video or a "thumbs down" icon to indicate that they disliked the video. We then calculated the ratio of "likes" to "dislikes."

We also recorded whether an age restriction (18 years old) was placed on the video due to mature content (Google, n.d.-a, n.d.-b). In order for an age restriction to be placed upon a video, the video must first be flagged by a viewer as containing content inappropriate for younger audiences. Then YouTube staff review the flagged videos and determine whether an age restriction is necessary (Google, n.d.-c).

For each channel (i.e., YouTube account) that published the videos, we recorded the channel name, number of subscribers, and geographic location when it was voluntarily provided either in the video itself or video/channel descriptions. For each video, we also determined whether medical marijuana use was indicated, either in the video itself or within the video/channel descriptions.

Video content

A combination of deductive and inductive approaches was used to code the content of the videos. Some codes were guided by a prior study of YouTube videos about using marijuana concentrates (Krauss et al., 2015), but additional codes were driven by the content of the videos about edibles. Research team members first watched 25 of the videos and identified recurring themes and relevant classifications. A detailed codebook was developed and refined in order to guide qualitative assessment. Classifications and themes are described below.

Video objective(s)

We determined the primary objective(s) of each video. The following categories were used: (1) informative, providing details about how to make or consume edibles, or the history of edibles, (2) product reviews or advertisements/promotions (specific edibles or stores were mentioned or advertised and/or recommendations were provided), (3) entertainment (appeared to connect with the viewer in an amusing or engaging way, such as telling amusing stories, displaying use/effects, teaching about edibles in an entertaining way, TV shows/clips, etc.), and (4) news story/documentary. Videos could have more than one objective.

Edible types and use

We classified the type of edibles included in the videos (baked goods, candy/chocolate, drinks, butter/oil, etc.) as well as whether a person was shown consuming an edible, whether a story was told about a prior experience with edibles, or whether someone experiencing the effects from edibles was shown. Use of other types of marijuana products in the video (e.g., smoking joints/blunts/bongs, dabbing marijuana extracts) was also recorded.

Effects from edibles

We coded for whether the type of high was mentioned, including an extreme/intense high, long-lasting high, delayed high (i.e., delay from ingesting until feeling effects), location of high (body or head high), and individual-specific high (i.e., everyone experiences the high differently). In addition, we documented specific health effects that were mentioned, including both positive effects (e.g., sleep aid, pain treatment, improves mental health) and adverse effects.

Safety

We identified information provided that may assist with safer consumption of edibles, including mentioning the THC potency, dose/portion size, or impact of differing user tolerance levels. We also classified when the above information, or additional information, such as discouraging ingesting edibles along with alcohol, was provided as a direct warning to facilitate safe consumption (as opposed to a brief/casual mention of THC content). In addition, we coded for what might be considered unsafe advice, including how to get stronger or quicker effects.

Main characters

We characterized whether a person in the video could be perceived as an expert, such as a marijuana dispensary owner/employee, a scholar, or leader of a marijuana advocacy group. We also identified whether a celebrity was shown in the video, including television stars/personalities and popular musicians.

A total of three researchers watched the 51 videos in their entirety. Two student interns watched and coded the videos together, and a senior team member watched and coded the videos independently. Inter-rater agreement was moderate to excellent. Median percentage agreement was 94% (range 73 to 100%) and median Cohen's kappa was .77 (range .45 to 1.0; the only code with kappa < .50 was product review/promotion). Any discrepancies were discussed by the three members until a consensus was reached.

Wilcoxon–Mann–Whitney tests were used to compare number of view counts, number of comments, and ratio of “likes” to “dislikes” by the presence of an age restriction, and whether the video's objective(s) were informative, entertainment, product review, or news. Tests were two-tailed with $p < .05$ considered significant. SAS version 9.4 (SAS Institute Inc., Cary, NC) was used for statistical tests.

Results

Video and channel characteristics

The median number of views across all the 51 videos was 107,303 (inter-quartile range [IQR] 12,777 to 200,454), and the total number of views across all the 51 videos was 9,039,308. The median number of comments was 155 (IQR 25 to 405), and median comments per 1,000 views was 1.5 (IQR 0.7 to 2.4). In general, videos had more “likes” (median 885, IQR 107 to 2,909) than “dislikes” (median 50, IQR 7 to 135) (median ratio of “likes” to “dislikes” 24.8, IQR 13.6 to 34.0).

Only seven (14%) of the videos had an age restriction of 18 years. Age-restricted videos did not differ significantly from those without an age restriction on the number of views or the ratio of “likes” to “dislikes,” but did have more comments (median 415, IQR 199 to 524) than videos without an age restriction (median 116.5, IQR 14 to 327, $Z = 2.30$, $p = .021$).

The 51 videos were published by 44 unique channels. The median number of channel subscribers was 8,246 (IQR 260 to 148,682). The geographic location was unknown for 32% (14/44) of the channels but 23% (10/44) were from California, 20% (9/44) from Colorado,

and 11% (5/44) from Washington. Among the 51 videos, 67% (35/51) indicated or mentioned medical marijuana use.

Video objectives

Examples of the purpose of the videos are shown in Table 1. Over half (27/51, 53%) of the videos had an informative purpose, the large majority of which (20/27, 74%) taught the viewers how to make an edible. In fact, videos that taught how to make an edible had a greater number of views (median 153,228, IQR 75,543.5 to 340,674) than all other videos in our sample (median 45,051, IQR 8,524 to 156,245) ($Z = 2.29, p = .022$). Entertainment was also a relatively common intention of the videos, with approximately 37% (19/51) providing an entertaining, amusing, or engaging presentation of the video content. Entertainment videos had a greater number of comments (median 371, IQR 97 to 806) than videos without this objective (median 103, IQR 11 to 304) ($Z = 2.64, p = .008$). Another third of the videos (17/51, 33%) included a product review or promotion of edibles. Finally, a small proportion of the videos (7/51, 14%) was news stories/documentaries.

Edible types and use

The most common types of edibles included in the videos were baked goods (e.g., brownies, cookies, and other baked items; 29/51, 57%), followed by candy/chocolate (24/51, 47%) and butter/oil (23/51, 45%). Marijuana-infused drinks were included in 22% (11/51) of the videos and other less traditional types of edibles (e.g., ice cream, macaroni and cheese, pizza, pretzels, beef jerky) were included in 27% (14/51) of the videos.

Approximately 31% (16/51) of the videos included someone consuming an edible, 29% (15/51) included someone recounting a story of a prior experience with edibles, and 20% (10/51) showed someone experiencing effects after eating edibles. Other forms of marijuana were sometimes used in the videos (12/51, 24%), the most popular of which was smoking joints/blunts/bongs/pipes (9/12, 75%) followed by dabbing marijuana concentrates (5/12, 42%).

Description of effects from edibles

Approximately 51% (26/51) of the videos mentioned the type of high experienced from edibles (Table 2). Among these, the most commonly mentioned were the delayed high (18/26, 69%), an intense high (13/26, 50%), long-duration high (9/26, 35%), the high is experienced by individuals differently (8/26, 31%), and the location of high (e.g., body or head; 8/26, 31%).

Safety

Product labeling was mentioned in 24% (12/51) and lab testing/quality assurance was mentioned in 12% (6/51) of the videos (Table 3). More than half (28/51, 55%) of the videos mentioned THC potency, dose/portion, or tolerance levels. However, only 10 (36%) of these videos presented this information in a way that was a specific warning to prevent adverse effects. Furthermore, of the 20 videos that taught how to make your own edibles, only nine (45%) provided information on THC potency or dose/portion size. Other specific warnings given in the videos included waiting after ingestion for the edibles to take effect (rather than

ingesting more) (8/51,16%), labeling or separating marijuana-infused edibles from regular food (2/51, 4%), keeping away from children (2/51,4%), not operating heavy machinery (2/51, 4%), not ingesting on an empty stomach (1/51,2%), and not ingesting with alcohol (1/51,2%). In contrast, 12% (6/51) of the videos gave advice on how to get the strongest or quickest effects from edibles, such as adding more marijuana when cooking to increase the potency, taking larger doses, or ingesting on an empty stomach.

Main characters

Approximately 25% (13/51) of the videos included someone who may be perceived to be an expert in the field, such as a marijuana dispensary business owner or employee, a scholar, or the director of a marijuana advocacy group. Eight percent (4/51) included a celebrity, one of which consumed an edible during the video and two of which recounted a story about a prior experience with edibles.

Discussion

In our exploratory study of edibles-related videos on YouTube, we found that such videos were relatively popular and could be easily accessed by underage youth. We focused our study on the most popular and relevant marijuana edible-related videos and found that they had more than nine million views on YouTube. Further supporting the popularity of edibles' content on YouTube, we likewise observed that the median view count was similar to YouTube videos about alcohol intoxication and e-cigarettes (Primack et al., 2015; Romito et al., 2015). Moreover, engagement and positive sentiment associated with the videos about edibles, indicated by the strongly favorable ratio of "likes" to "dislikes" and number of comments per 1,000 views, were similar to videos about alcohol intoxication and cigarettes (Carroll et al., 2013; Primack et al., 2015). This suggests that current interest in edibles on YouTube is high and similar to that for traditionally mainstream substances and others recently increasing in popularity. Interest in edibles is likely to increase as marijuana legalization spreads to more states, and more people may turn to YouTube to view content about edibles.

Prior research has shown that both media and peers are strong influences on youth substance use behaviors and attitudes, and YouTube is known to be a popular social media site among teens (Allen et al., 2012; Mander, 2015; Salimian et al., 2014; Wasserman, 2013; Waylen et al., 2015), therefore the accessibility of edibles-related videos to underage youth is of concern. Specifically, we found that, similar to other studies about substance use on YouTube (Barry et al., 2015; Huang, Kornfield, & Emery, 2016; Seidenberg, Rodgers, Rees, & Connolly, 2012; Winpenny, Marteau, & Nolte, 2014), the majority of videos about edibles was accessible to underage viewers. Furthermore, the content of most of the videos appeared to encourage edibles' use. Many videos (especially those most widely viewed and/or most engaging) provided instructions on how an individual could make edibles at home, or presented edibles use in a fun/entertaining way with pop culture content that could especially appeal to youth (i.e., edibles use by celebrities). Given that the use of edibles among teens is not uncommon and the appeal of being able to consume marijuana in baked goods or candy (versus smoking marijuana) (Friese, Slater, Annechino, & Battle, 2016;

Johnston et al., 2015), there is potential for YouTube videos that normalize use, make it appear fun, and/or tout its intense effects to influence young viewers—who can easily view this content—to experiment with edibles. We should be concerned with this possibility because people who begin regular marijuana use at a young age are at increased risk of negative consequences (Volkow, Baler, Compton, & Weiss, 2014). Thus, while more effective policies and prevention measures are needed on YouTube to prevent underage youth from viewing such content, it is also prudent for parents and clinicians to discuss risks associated with use of edibles by youth, including the effects from regular use and from ingesting products with high THC content.

Another key finding of our study was that some videos did provide some kind of safety information about use of edibles for viewers. We studied videos for content about THC potency information and/or dosage advice, given the potential for overdose or intoxication when using edibles is especially problematic for new users and can lead to panic attacks or psychotic symptoms (Hall & Solowij, 1998). This type of information was available in only half of the videos, and even fewer presented this information as warnings of the potential adverse effects that could result from edibles' use. Our findings could have important implications for how edibles' use is presented on YouTube. Specifically, there is a need to balance the current pro-edibles' messages being delivered on YouTube with public health/safety messages about this topic. For instance, advice on paying attention to edibles' labeling, teaching about THC content and dose sizes, and/or highlighting the delay in feeling effects following ingestion, indicates awareness about the safety information that can be important to communicate to potential consumers of edibles. Such warnings about marijuana edibles have been recommended by the Centers for Disease Control to help prevent overconsumption of THC (Hancock-Allen et al., 2015).

Some limitations should be considered when interpreting results from our study. To hone in on popular and relevant videos about edibles on YouTube, we used a limited number of specific search terms and examined only 51 videos. These videos were not randomly selected but rather represented the first page of results from YouTube searches. Using a more comprehensive list of search terms and analyzing more videos could have resulted in a wider range of content in the videos. We also examined videos at only one point in time. Continuing review of popular videos about edibles could provide insight into the potential increase in the popularity and evolution of such videos as more states legalize marijuana. Two of the coders (student interns) watched and coded the videos together, which could have influenced their coding decisions as opposed to coding separately. However, a third senior researcher coded the videos separately and discussed discrepancies with the interns. Finally, while we were able to capture the overall popularity and engagement of videos and whether age restrictions were in place, we could not identify the age of viewers nor the specific impact of these videos on viewers' marijuana use attitudes or patterns.

In this exploratory study of videos about marijuana edibles on YouTube, we found that such videos are as popular as those about mainstream substances and are easily accessible, with few age restrictions. While some videos recognized the importance of mentioning safety issues to prevent edibles' overdoses/intoxication, informative content, including how to make your own edibles, was more common and often lacked important safety information

such as potency and dosage guidelines. As more states legalize marijuana either medically or recreationally, YouTube may become more popular as a resource for those who are curious about edibles. Videos that teach how to make your own edibles or present use of edibles in an entertaining way with little warning or safety information could encourage underage viewers to initiate use.

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Table 1Types of videos about marijuana edibles ($n=51$).

Classifications	n (%)	Example video titles
Informative	27 (53%)	<ul style="list-style-type: none"> • What Taking a 10mg/THC Marijuana Edible Looks and Feels Like • Introduction to Edibles—Medicating with Marijuana • How to Make Easy Edibles • How to Make Weed Rice Krispies (Edibles)
Entertainment	19 (37%)	<ul style="list-style-type: none"> • Kris Jenner & M. J. Eat Marijuana Gummy Bears Keeping up with the Kardashians E! • EATING WEED TO GET HIGH!! (EDIBLES) • Weed Brownies—After Effects • Funny Video—Man Freaks Out After Eating Edible Weed
Product reviews/promotions	17 (33%)	<ul style="list-style-type: none"> • 2015 Denver Cannabis Cup: Edible and Tropical Entries • Monkey Bar (Edible) Medical Marijuana Edible Review • Eating Weed!!!!!!!!!!!!!! 15 Medible Showcase! • 4x Weed Brownie 63 Percent THC: Review
News stories/documentaries	7 (14%)	<ul style="list-style-type: none"> • Edible Marijuana Sales Shattering Sales Projections in Colorado • <i>The Science of Cannabis</i> (documentary 2014) • Oklahoma Couple Blames Sons' Suicide on Marijuana Edibles • The Edible Marijuana Market in Colorado

Table 2Description of types of high from edibles in YouTube videos ($n = 26/51, 51\%$).

Types of high	<i>n</i> (%)	Example quotes
Delayed high	18/26 (69%)	<p>“It takes longer ... but when it hits you it hits you.”</p> <p>“I know it takes a little while to kick in ... I’ll let you guys know how this goes in like an hour or so.”</p>
Intense high	13/26 (50%)	<p>“A lot of people underestimate edibles and think that ‘Oh, I’m not smoking, so it’s not gonna get me.’ Bullshit. It’s gonna get you even higher. This can stop an elephant in its tracks.”</p> <p>“Cannabutter is perfect for those who would rather eat their medical marijuana for medical reasons or maybe because of the prolonged, intense, and more even effects felt when eating as opposed to smoking marijuana.”</p>
Long duration	9/26 (35%)	<p>“It [the high] can last up to 8 h.”</p> <p>“I was fucked up ... I had a meeting. I had to cancel the meeting. I had to go to my hotel room. In that hotel room for at least 16 h. 16 h of straight fucking chaos.”</p>
High is unique to the individual	8/26 (31%)	<p>“Everyone’s body is different ... It all depends on your metabolism. It’s very much an individual experience.”</p> <p>“You and me could take the same edible, and you know, I’m flying high in an hour and you’re not ... People have different experiences with edibles all the time.”</p>
Where you feel the high (e.g., head only, entire body)	8/26 (31%)	<p>“When you eat cannabis, it gives you much more of a body high than it does a head rush or a psychoactive high like you can find with smoking a joint ...”</p> <p>“It’s been a couple hours. We’ve had enough time to let the full effects set in It wasn’t too long after we clicked this video off that I immediately started feeling the body high in my tummy.”</p>

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Table 3Safety issues about edibles in YouTube videos ($n = 51$).

Issue	<i>n</i> (%)	Example quotes
Product labeling	12 (24%)	<p>“Other thing that I like is that their labeling is really clear. It tells you exactly what is in each package.”</p> <p>“Even edibles themselves are not even sometimes properly labeled or they’ve found to have different dosages.”</p>
Lab testing/quality assurance	6 (12%)	<p>“They test what they use, before it’s used, along the way, and then at the end to make sure what’s in each one of these products They don’t guess like some of your companies who just throw something in there and maybe some of it ended up on this side and some of it didn’t get anything.”</p> <p>“Today’s episode, I’m very excited, is about an edible. Incredible. These are like my favorite brand of medicated chocolates They are lab-tested. They have 100 mg of THC ...”</p>
THC potency/dose or tolerance levels	28 (55%)	<p>“63.9% active THC ... I’m gonna do about half of this and see how it goes ... they said pretty much that half of this would do some damage in a good way.”</p> <p>“You wanna start your dosing like very very small. Like you know a quarter of a gram or 250 mg if it’s on something that you bought.”</p>
Wait after ingesting for edibles to take effect	8 (16%)	<p>“I always tell people, start off small and don’t keep eating. ... Sometimes people don’t feel the effects. ... With edibles it may not kick in for 2 h depending on what you’re eating that day”</p> <p>“Always read the label, wait 1–2 h after ingesting, and educate yourself on what a portion size is for you.”</p>
How to get the strongest or quickest effects	6 (12%)	<p>“One thing that I like about this recipe is that if you want to make them stronger, you just simply add more hash or stronger hash into the recipe. It’s really adaptable that way.”</p> <p>“I wanna give you guys a tip on taking edibles. I haven’t eaten anything for a few hours. I’m on a pretty empty stomach right now. And that will help the edibles be the first priority for your digestion. And then you’ll get your THC a lot quicker.”</p>