Abstract Guidelines

The Conference Research Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. Reports of randomized controlled trials should follow the CONSORT extension for abstracts. The abstract must include the following components:

- **Title:** a concise and descriptive title
- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used
- **Results and Discussion:** the key study results and findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be included in the abstract. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'.

We have included examples of two abstracts from a previous conference that are good examples of the required abstract content.

See Next Page

Background
Methods
Key Results and Discussion
Key Conclusions

Title: Investigating Alcohol and Cannabis Co-use in a Survey Sample of Regular Cannabis Users and a Clinical Sample of Heavy Drinkers Enrolled in Alcohol Treatment

Authors

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Abstract

Cannabis is commonly used among people who drink alcohol, but findings are mixed regarding the direction of this relationship. Motives for use, type of cannabis (e.g., high-CBD vs. high-THC, edible vs. smoked), frequency and amount used may all play a role in determining whether cannabis is associated with increased or decreased alcohol consumption. CBD has shown preclinical promise in decreasing alcohol consumption and medical cannabis users in particular report using cannabis to decrease alcohol consumption. Evidence also suggests a nuanced relationship between alcohol and cannabis among individuals engaged in alcohol treatment, depending upon cannabis use severity. This study includes survey data from regular cannabis users who also drink alcohol (N=564) and from treatment-seeking heavy drinkers enrolled in an 8-week alcohol intervention study who also use cannabis (N=48). On the survey, medical users (n=484) consumed fewer drinks per occasion than recreational users (n=75), $t(557)=-2.2$, $p=.038$. Flower cannabis users who reported using mostly CBD products (n=33) co-use alcohol and cannabis less often than individuals who use mostly THC (n=177) or THC+CBD (n=271) products $F(2,478)=11.59$, $p<.001$. CBD users also report fewer drinks per drinking day (DPDD) $F(2, 490)=4.205$, $p=.015$). Edible cannabis users (CBD n=42, THC+CBD n=270, THC n=96) users show the same pattern for DPDD $F(2,405)=4.332$, $p=.014$). In the intervention study, participants were classified as heavy (n=23) or light-to-moderate (n=25) cannabis users. These groups showed no differences in alcohol use pre-treatment. Among heavy cannabis users, change in DPDD from pre- to post- treatment was positively correlated with change in cannabis use ($r=.454$ $p=.029$), but light-to-moderate cannabis users showed no such relationship. Results suggest that medical users and users of high CBD products have less severe drinking patterns compared to recreational and higher THC users. In addition, heavy cannabis users who are engaged in alcohol treatment show decreased drinking associated with decreased cannabis use.

Title: Insecticidal Property of Cannabidiol: CBD Disrupts Exoskeleton Development of Tobacco Hornworm (Manduca sexta)

Authors

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Abstract

Cannabidiol (CBD) has received much attention in recent years due to the recognition of its medicinal potential. Despite the long history of cultivation by humans, the intrinsic evolutionary question on why cannabis produces phytocannabinoids has not been fully addressed. Our preliminary data suggests CBD plays a defensive role against herbivorous insects by inhibiting growth and development. Additionally, long-term CBD administration significantly reduced total crude protein in the CBD-treated hornworm group by 34% compared to control groups, while non-polar lipids, glucose, and water retention remained unchanged. To have a better understanding on how CBD impacted insect growth, an RNA-Seq approach was used to catalog differentially expressed genes. The analysis identified a total of 26,000 genes. Among them, 36 genes (>1,000-fold) appeared to be highly up- and down-regulated. Interestingly, genes that were involved in exoskeleton formation such as cuticle-like and collagenase were highly regulated in response to CBD administration. To further investigate if CBD had any effects on insect's metabolic profiles, gas chromatography time-of-flight mass spectrometry analysis (GC-TOF-MS) was performed on lyophilized insect samples. In the CBD-fed insects, three amino acids: asparagine, L-aspartic acid, and β-alanine, were significantly increased by 2.8-, 2.1-, 17-fold respectively, while trehalose was decreased by 5.6-fold. Asparagine, L-aspartic acid, and β-alanine are essential to the production of N-β-alanyldopamine (NBAD) and dopamine, which are essential precursors to sclerotization/tanning of the insect cuticle. Based on the observational, metabolic and transcriptomic profiles, CBD may impact the biochemical pathways involved in sclerotization (cuticle hardening) leading to premature or unregulated ecdysis. Further study and analysis of cuticle and chitin production during tobacco hornworm development will help us understand the defense mechanism of CBD on biochemical pathways involved in sclerotization.