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2021

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Recommended Citation

Cregin, Dennis; Hinkley, Courtney; and Horowitz, Julia, "The Impact of Illicit ADHD Medication Use on Dietary Choices and Mental Distress Among College Students" (2021). *Research Days Posters 2021*. 27. https://orb.binghamton.edu/research_days_posters_2021/27

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Investigating the Correlations between ADHD Medication Use and Diet Patterns

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Introduction

Appetite

- Appetite suppression is one of the thoroughly documented symptoms of ADHD medication (Freye, 2009).
- Some individuals who use ADHD medications particularly for their appetite suppression effects are more likely to experience disordered eating symptomatology (Jeffers & Benotsch, 2014).

Food Cravings

- Brain reward circuits affected by ADHD medication may play a role in “pleasure-seeking behavior and food cravings” (Carpenter et al., 2013).

Frequency

- Although this stimulant has undesired side effects, the use of ADHD medication among American college students is not uncommon (DeSantis & Hane, 2010).

- Side effects include loss of appetite, mood swings, sleep disruption.

Hypothesis

- This study hypothesizes that use of ADHD medication is negatively correlated with the frequency of consumption of healthy foods, such as fruits, whole grains, flaxseed, nuts, and green leafy vegetables.
- This study also hypothesizes that ADHD medication use is positively correlated with the frequency of consumption of unhealthy foods (pre-made foods, frozen foods, salty snacks, sweets).

Methods

- Data was collected using an anonymous electronic survey using Food-Mood Questionnaire with additional questions added on Adderall usage among US college students, perceptions of use, how is use impacts diet and exercise patterns. Demographic Questions included: gender, age, college, major
- The survey link was distributed via email, social media, and through outreach programs at Binghamton University.
- Data from the survey was analyzed using Pearson's Correlation Coefficient using SPSS version 25.0

Results

A total of 1,187 participants completed the survey.

Food Type/Diet	Use of ADHD Medications for Academic Purposes
Plant-Based Diet	-.131*
Nuts	-.165*
Meat	.158*

Food Type	Use of ADHD Medications for Non-Academic Purposes
Nuts	.237**
Beans	.133*
Frozen Meals	.144*

Food Type	Frequency of Illicit ADHD Medication Use
Dark Leafy Green Vegetables	-.164*
Fast Food	.165**
Fish Oil	.128*

Food Type	Perceived Dependence on ADHD Medication
Fruit	-.149**
Dark Leafy Green Vegetables	-.099*
Sweets	-.081*

* ($p < .05$), ** ($p < .01$)

Discussion

- There is a negative correlation between frequency of illicit ADHD medication use and frequency of weekly consumption of dark green leafy vegetables.
- There is a positive correlation between frequency of illicit ADHD medication use and frequency of weekly consumption of fast food and fish oil.
- Participants indicated read for their illicit use of ADHD medication that belonged to two broad categories:
 - Academic (improving academic performance, improved memory, focus, concentration, alertness, awakesness).
 - Non-academic (weight management, improving athletic performance, recreational purposes, fitting in with peers).
- Individuals who cited academic reasons for ADHD medication use were less likely to have a plant-based diet and nuts, and more likely to eat meats.
- Those who identified non-academic reasons for ADHD medication use were more likely to eat nuts, beans, and frozen meals.
- Participants who reported being dependent on ADHD medications were less likely to eat fruit dark leafy green vegetables. and sweets. In large part, these results support our hypotheses that illicit users are more likely to consume unhealthy foods and less likely to consume healthy foods during a given week.
- However, no significant correlations were identified between frequency of illicit ADHD medication use and frequency of consumption of the following: whole grain, dairy, caffeine, fish, salty snacks, and sweets.

Conclusions

- Our findings suggest a relationship between ADHD medication use and specific dietary patterns.
- Our results are supported by previous research on the use of ADHD medications, especially illicit use, that addresses this impact of these drugs on the reward pathways in the brain by altering dopaminergic transmission. This can contribute to an increased susceptibility among users that makes them more likely to consume foods high in calories, salt, and sugar.
- Illicit ADHD medication use is also positively correlated with several negative mental health side effects, including depression, anxiety, inability to concentrate, etc. It is possible that these symptoms may prompt individuals to seek pleasure from food as well as continued use of the drug in order to alleviate their symptoms.
- In all, it can be concluded that those who use ADHD medications illicitly are less likely to support a healthy, well-balanced diet consisting of dark leafy green vegetables, nuts, and fruit. Instead, their diets often incorporate fast food and frozen meals.
- A poor diet will lead to a decline in mental health which may start a vicious cycle of substance use to improve mental status and poor eating habits.

Future Works

- Our findings are of concern because the young brain is completing its maturity which requires a spectrum of nutrients.
- Administer the survey to high school students in the United States to investigate Adderall usage in high school students and how it's influencing their diet patterns.

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