



Relationship between Covid-19 Impact and Instrumental Use of Marijuana in Youth with Chronic Medical Conditions



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Background

- In 2020, schools and businesses shut down and people were encouraged to remain at home due to the COVID-19 pandemic.
- Marijuana has been touted as helpful for alleviating symptoms/side effects of chronic disease and among youth with chronic medical conditions (YCMC) who use marijuana, patterns of instrumental versus recreational use (IU and RU, respectively) may be associated with poor health and greater levels of pandemic burden

Objectives

- This study assessed whether different types of COVID-19 pandemic exposures and impact were associated with marijuana used to address symptoms or side effects ("instrumental use", IU) in YCMC.

Methods

- An electronic REDCap survey was administered from 10/27/2020 to 5/24/2021 to youth with chronic medical conditions (YCMC) ages 16-23 years receiving health care at an urban hospital.
- **Outcome:** Self-reported marijuana use in past 3 months, instrumental marijuana use during the past year, reasons for instrumental use
- Predictor: Pandemic exposure, impact, and distress assessed by the COVID-19 Exposure and Family Impact Adolescent and Young Adult Version (CEFIS AYA)¹.
- Differences in socio-demographics, health characteristics, and COVID-19 related exposure, impact, and distress between participants reporting IU and RU were compared using Chi-square, Fisher's exact, Kruskal-Wallis, and t-tests as appropriate.
- **Logistic regressions** was used to estimate the associations among significant pandemic impact outcomes and instrumental marijuana use, adjusting for clinics, demographics, depression, anxiety. We used SAS 9.4. Statistical significance was considered at p<0.05.

Results

Table 1: Demographic and Clinical Characteristics of YCMC with IU and RU

	N(%)	Any Instrumental Use		P-value
		Yes	No	
	(N = 88)	47 (53.4%)	41 (46.6%)	
Demographics				
Age, Mean (SD)	19.4 (1.6)	19.6 (1.6)	19.1 (1.6)	0.135
Female	45 (51.1)	24 (51.1)	21 (51.2)	0.988
White and non-Hispanic	67 (76.1)	39 (83.0)	28 (68.3)	0.107
Parental College Education	67 (76.1)	39 (83.0)	28 (68.3)	0.107
Pandemic Measures				
CEFIS Exposures ^a , Mean (SD)	8.4 (3.4)	8.3 (3.6)	8.4 (3.2)	0.943
CEFIS Impact Sum ^b , Mean (SD)	34.2 (12.4)	36.1 (12.1)	32.0 (12.6)	0.111
CEFIS Distress ^c , Mean (SD)	5.6 (2.2)	5.9 (2.0)	5.3 (2.3)	0.294
Mental Health				
Depression (PHQ-2 score ≥ 3)	17 (19.3)	10 (21.3)	7 (17.1)	0.618
Anxiety (GAD-2 score ≥ 3)	22 (25)	17 (36.2)	5 (12.2)	0.010
Substance Use				
Marijuana use (days, past 3 Months)	22.4 (30.2)	33.1 (33.1)	10.1 (20.8)	<.0001
Any Alcohol use past 12M	79 (89.8)	42 (89.4)	37 (90.2)	1.000
Any Vaping past 12M	71 (80.7)	42 (89.4)	29 (70.7)	0.027
Tobacco use past 12M	32 (36.4)	21 (44.7)	11 (26.8)	0.083

^a Range: 0-28; ^b Range: 0-60; ^c Range: 0-10;

Table 2: Association between the Covid-19 Impact Items with IU

CEFIS Impact Item	Instrumental Users	
	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
How family/household members get along	3.33 (1.39 - 8.02)	3.92 (1.51 - 10.18)
Physical well-being - substance use	2.55 (1.08 - 6.05)	2.38 (0.98 - 5.80)
Emotional well-being - anxiety/worry	3.90 (1.25 - 12.16)	4.88 (1.39 - 17.11)
Social well-being - relationship with friends	2.62 (1.03 - 6.68)	2.53 (0.97 - 6.61)

Adjusting for clinics, demographics, depression, anxiety

Discussion

- Over half of surveyed YCMC who use marijuana do so to address symptoms/side effects of their condition.
- IU was associated with pandemic-related family stress and anxiety but not with general health measures.
- Prior pre-pandemic reports of YCMC² established 62% of IU for anxiety in YCMC, compared to 84% in this study.
- There are clear associations among IU and negative impacts of the pandemic on social and emotional wellbeing, and on family relations.
- Compared to RU, IU consume marijuana more frequently and have higher levels of vaping.

Limitations

- Self-reported data for these analyses were derived from a small, predominantly white convenience sample drawn from a single institution.

Conclusion

- Overall, IU is common among medically vulnerable youth who use marijuana—more so than pre-pandemic.
- Findings suggest that YCMC are using marijuana to cope with pandemic-related adversity.
- IU is associated with negative pandemic impacts, anxiety, substance use patterns that suggest more acute risk for disorder.

References

- 1: <https://www.healthcaretoolbox.org/covid19-exposure-family-impact-scale>
- 2: Joe Kossowsky, Kara M. Magane, Sharon Levy, Elissa R. Weitzman; Marijuana Use to Address Symptoms and Side Effects by Youth With Chronic Medical Conditions. *Pediatrics*. March 2021; 147 (3): e2020021352

Contact and Funding

Contact: joe.kossowsky@childrens.harvard.edu
Funding: Conrad N Hilton Foundation # 20140273/18455.

Figure 1: Reasons for Instrumental Use

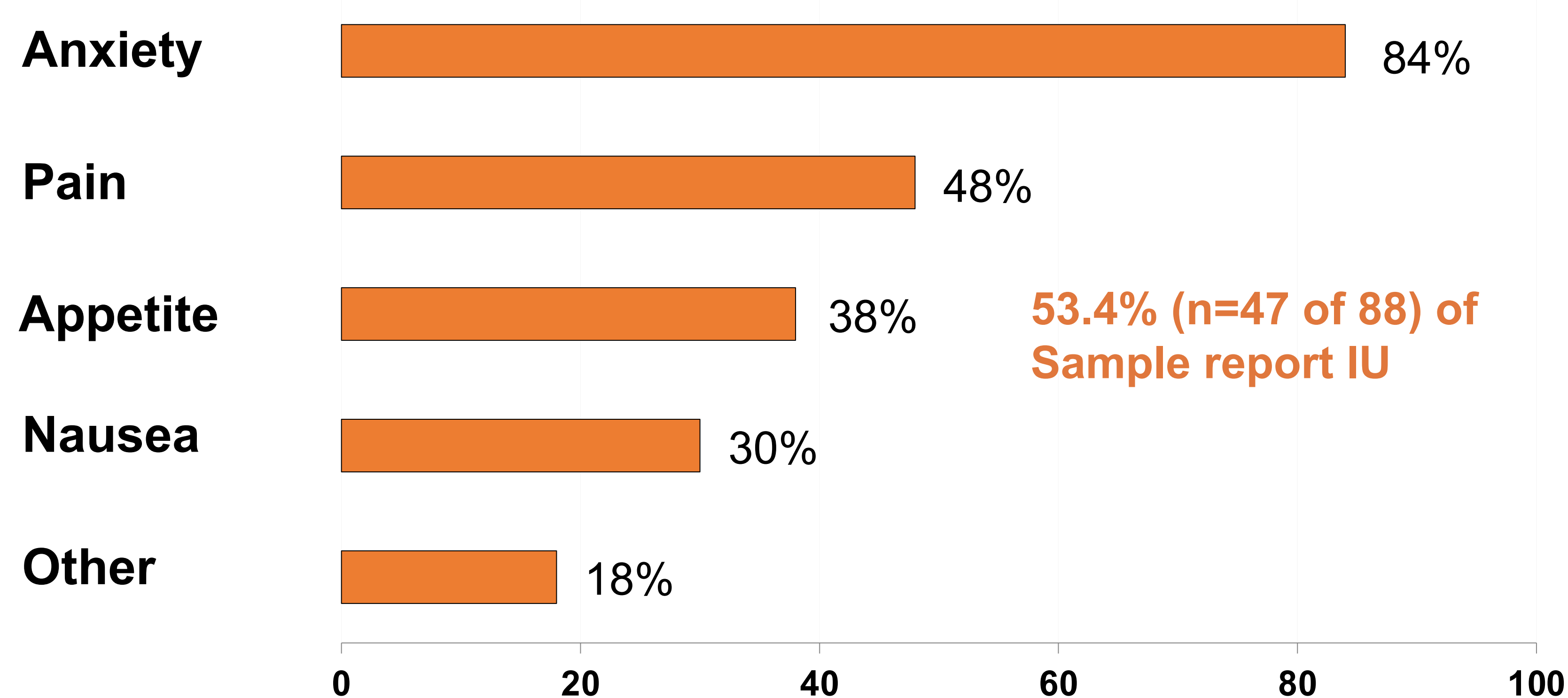


Figure 2: CEFIS Impact Items

