

Cannabinoid Use in a Population Based Survey of Adult Athletes

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BACKGROUND

- Cannabis use in athletes has primarily focused on problem use in elite, university-based, and adolescent athletes.¹
- Adult athletes use cannabis concurrently with exercise for enhanced enjoyment, motivation, and recovery.²
- Early studies in which administration of CBD and THC alone and co-administration of CBD and THC suggested the presence of CBD attenuated the effects of THC and that CBD-only had perceived effects opposite to that of THC.³

OBJECTIVES

- Determine how patterns of use impact cannabinoid choices in adult athletes.
- Determine positive and adverse subjective effects by cannabinoid type in an adult population of athletes.

METHODS

- The Athlete Pain, Exercise, and Cannabis Experience (PEACE) Survey study was a cross-sectional quantitative survey.
- IRB approval was obtained through Solutions IRB with exempt status. The following statement was in the survey introduction: "By completing and submitting this survey, you are indicating your consent to participate in the study. Your participation is appreciated."
- Using mainly social media recruitment (Facebook, LinkedIn, Twitter, Email blasts), 1,161 athletes from a variety of sports completed the online survey which was administered on Survey Gizmo between 6 September 2018 through 7 December 2018.
- Analyses were conducted on 301 current cannabis users (1 current cannabis user had ambiguous data and could not be included).
- Current cannabis use was assessed in three parts: (1) "Have you ever used marijuana?" (2) if yes, then "In the past two weeks, have you used marijuana, including THC and/or CBD?" (3) if yes, then, "Do you primarily use THC, CBD, or both THC and CBD?"
- Patterns of use included: frequency, duration, reasons for use (medical, recreation, both), routes of administration.
- Nine positive subjective effects and 8 adverse subjective effects were collected.
- Descriptive analysis for demographics, athlete information, patterns of use, and subjective effects.
- Chi-square tests to determine if there were differences in patterns of use and subjective effects by cannabinoid type.

RESULTS

Table 1: Demographics and patterns of use in 301 current cannabis users

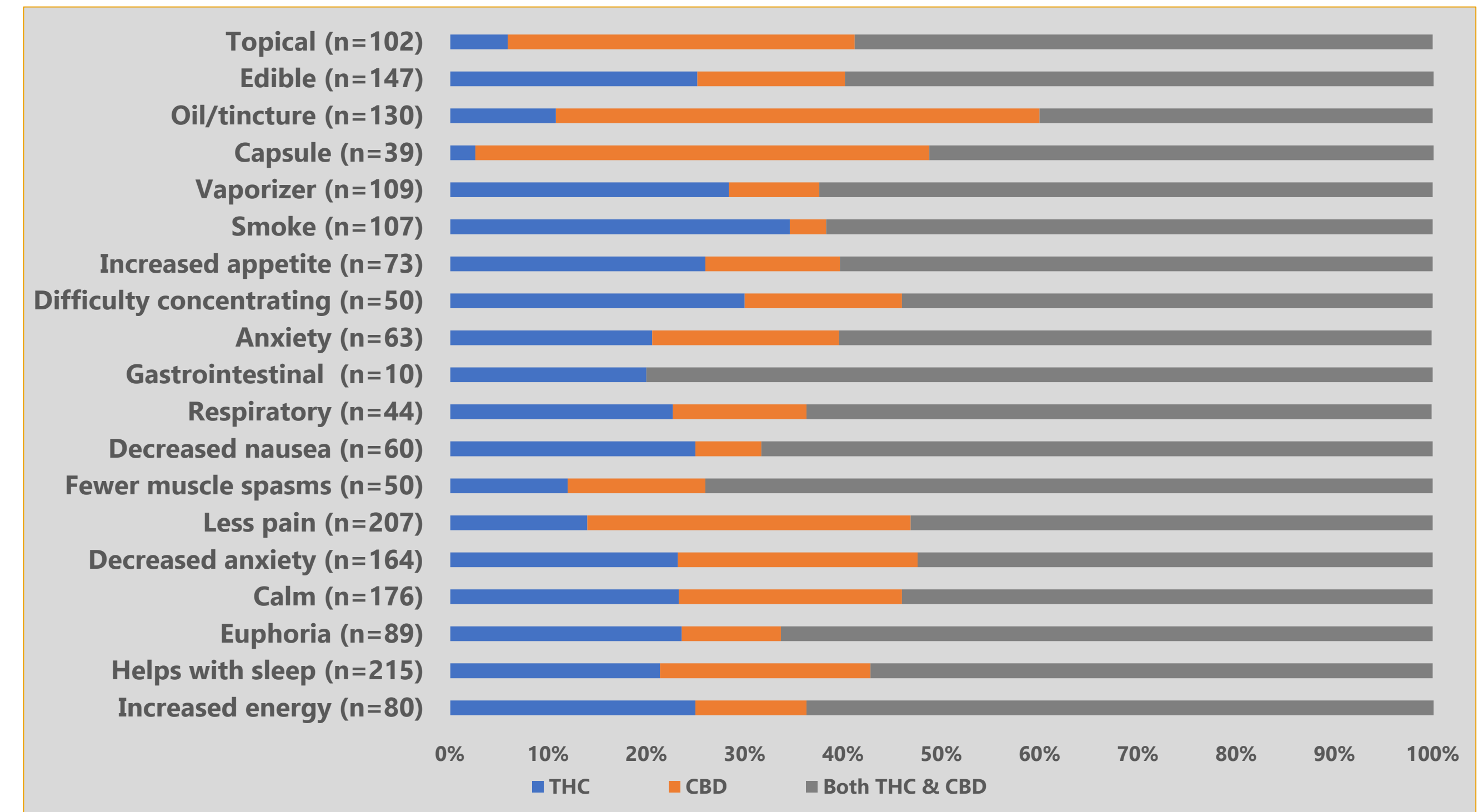
		THC		CBD		Both THC & CBD		Total	
		n	%	n	%	n	%	n	%
Sex	Male	41	67.2	58	57.4	82	59.0	181	60.1
	Female	20	32.8	43	42.6	57	41.0	120	39.9
Age	21-39	29	47.5	25	24.8	67	48.2	121	40.2
	40 and over	32	52.5	76	75.2	72	51.8	180	59.8
Ethnicity	White	56	91.8	91	90.1	121	87.1	268	89.0
	Other	5	8.2	10	9.9	18	12.9	33	11.0
Sport	Running	13	21.3	21	20.8	41	29.5	75	24.9
	Cycling	10	16.4	31	30.7	28	20.1	69	22.9
	Triathlon	20	32.8	25	24.8	27	19.4	72	23.9
	Other	18	29.5	24	23.8	43	30.9	85	28.2
Reason for Use	Medical	1	1.6	75	74.3	23	16.5	99	32.9
	Recreational	37	60.7	12	11.9	38	27.3	87	28.9
	Both	23	37.7	14	13.9	78	56.1	115	38.2
Frequency	<3 times weekly	36	59.0	58	57.4	60	43.2	154	51.2
	4x weekly-2x/day	17	27.9	42	41.6	58	41.7	117	38.9
	≥2x/day	8	13.1	1	1.0	21	15.1	30	10.0
Duration	<3 months	5	8.2	35	34.7	5	3.6	45	15.0
	3 months - <3 years	13	21.3	51	50.5	45	32.4	109	36.2
	≥3 years	43	70.5	15	14.9	89	64.0	147	48.8

1. Significant differences in cannabinoid use by age (p=.001), reason for use (p<0.001), frequency of use (p=0.001) and duration of use (p<0.001) (Table 1).
2. Older athletes use primarily CBD. Longer users consume THC or THC and CBD combined. Medical users tend to consume CBD.

REFERENCES

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Figure 1. Endorsement of routes of administration and subjective effects to cannabis by cannabinoid type in 301 adult athletes



1. Significant differences in cannabinoid use by route of administration: smoke (p<0.001), vaporizer (p<0.001), capsule (p=0.01), oil/tincture (p<0.001), edible (p<0.001), topical (p<0.001) (Figure 1).
2. Significant differences in positive subjective effects by cannabinoid used: increased energy (p<0.001), helps with sleep (p<0.001), euphoria (p<0.001), calm (p<0.001), decreased anxiety (p=0.001), less pain (p<0.001), fewer muscle spasms (p<0.001), decreased nausea (p<0.001) (Figure 1).
3. Significant differences in adverse subjective effects by cannabinoid used: respiratory (p<0.008), gastrointestinal (p=0.049), anxiety (p<0.015), increased appetite (p=0.000), difficulty concentrating (p=0.011) (Figure 1).
4. There were no significant differences for spray, increased athletic performance, worse athletic performance, cardiovascular, skin reactions.

CONCLUSIONS

1. Cannabinoid type impacts subjective effects to cannabis with combination THC and CBD providing the most positive and adverse effects to cannabis.
2. Route of administration impacted the cannabinoid used.
3. Age, duration of use, and frequency of use influenced cannabinoid choice.
4. Most common positive effects were helps with sleep, less pain, and calm.
5. Most common adverse effects increased appetite, anxiety, difficulty concentrating.

