# DOES THE AMOUNT OF CANNABIS SMOKED PREDICT SYMPTOM SEVERITY IN PSYCHIATRIC INPATIENTS?

Oliveras Salvà C. [1,2]; Madero Gómez, S.[1]; Pons Cabrera, M.T.[1]; Sagué Vilavella, M.[1]; López-Pelayo, H.[1,2]; Gual Solé, A.[1,2]; Balcells-Oliveró, M.[1,2]

[1] *Addictions Unit. Department of Psychiatry and Psychology, Institute of Neuroscience, Hospital Clinic of Barcelona. Barcelona, Spain.*
[2] *Addictions Research Group. Institut d'Investigacions Biomèdiques August Pi i Sunyer, Barcelona, Spain*

## BACKGROUND

The relationship between cannabis use and severity of psychotic and affective disorders has been previously reported, but cannabis use has been mainly assessed by frequency of use. Based on the experience with other drugs as alcohol, frequency alone may lead to an underestimation of the risks and harms. On 2017, Clinic Research Group on Addictions established a Standard Joint Unit (SJU) based on quantity of cannabis main psychoactive constituent: 9-Tetrahydrocannabidol (9-THC). Independently if marijuana or hashish, 1 SJU=1 joint=0.25 g of cannabis=7mg of 9-THC[1].

In this study, **we aimed at investigating if the quantity of cannabis consumed before admission had impact on psychiatric inpatients' symptom severity.**

## METHODS

-cross-sectional study
-Setting: an acute psychiatric inpatient unit of a tertiary hospital in Barcelona.

-All patients admitted between March and August 2018 were invited to participate.
--Exclusion criterion was cognitive impairment that prevented comprehension of study and assessment.

-Quantity of cannabis consumption the week before admission, measured as standard joint units (SJU), as well as psychiatric symptoms severity measured within the first week of admission according to the Brief Psychiatric Rating Scale (BPRS)[2] were registered.

-Bivariate analyses and regression models were performed to investigate the relationship between SJU consumed before admission and psychiatric symptoms severity.

## RESULTS

Of 106 individuals, 27 subjects (25.5%) reported cannabis use before admission. **Among cannabis users, the mean quantity consumed the week before admission was 17.6 SJU (SD=17.4).** The mean BPRS score in the whole sample was 55.8 (SD=16.1) and 62.9 (SD=11.1) among cannabis users. The table shows a more detailed description of our sample.

| | **Whole sample** N=106 | **THC users (N=27)** | **Schizophrenia and other psychotic disorders (N=35)** | **Bipolar and Unipolar Affective Disorders (N=44)** | **Substance Use Disorders and other addictive disorders (N=27)** |
|---|---|---|---|---|---|
| ***Age -years-*** | M=46.05 SD=17.58 | M=34.52 SD=13.33 | M=35.02 SD=11.94 | M=52.57 SD=20.07 | M=49.71 SD=12.09 |
| ***Sex (female)*** | 52.8% | 40.7% | 28.6% | 68.2% | 59.3% |
| ***Illness Duration in Years*** | M=17.42 SD=14.64 | M=10.22 SD=11.58 | M=10.34 SD=11.28 | M=17.89 SD=17.08 | M=23.85 SD=10.35 |
| ***Previous use of antipsychotic drugs*** | 77.4% | 81.5% | 74.3% | 79.5% | 77.8% |
| ***THC Use*** | 25.5% | | 40.0% | 25.0% | 7.4% |
| ***SJU consumed the week before admission*** | M= 4.49 SD = 2.85 | M = 17.63 SD = 17.42 | M= 8.26 SD = 16.44 | M= 3.43 SD = 8.29 | M= 1.33 SD = 6.73 |
| ***Use of other drugs*** | 45.3% | 70.4% | 48.1% | 38.6% | 48.1% |
| ***Need of PRN sedative/neuroleptic medication*** | 55.7% | 81,5% | 71.4% | 52.3% | 44.4% |
| ***Need of physical restraint*** | 21.7% | 40.7% | 40.0% | 18.2% | 3.7% |
| ***BPRS score*** | M= 55.75 SD= 16.13 | M= 62.93 SD=11.09 | M= 65.69 SD=10.783 | M= 56.25 SD=15.88 | M= 42.04 SD= 12.35 |
| ***Lenght of stay (days)*** | M= 22.49 SD= 2.85 | M= 21.52 SD= 10.94 | M= 23.23 SD= 15.96 | M= 20.84 SD= 10.50 | M= 24.22 SD= 10.62 |

On bivariate analyses, a positive statistically significant correlation was found between SJU consumed before admission and BPRS score ($r=0.19, p<0.04$). A one-way ANOVA determined that BPRS score was statistically significantly different between patients in the three main diagnostic groups: Schizophrenia/Psychosis ($M$ = 65.69, $SD$ = 10.78), Bipolar/Affective Disorders ($M$ = 56.25, $SD$ = 15.88) and Addictions ($M$ = 42.04, $SD$ = 12.35), $F(2, 103) = 23.46$, $p < 0.0005$.

A multivariate linear regression analysis was conducted with the mean BPRS score as the dependent variable. Independent variables included SJU consumed before admission, sex, age, main diagnostic group and need of PRN neuroleptic/sedative medication and physical restraint during admission. *Both main diagnostic group –psychosis VS others- (B = 8.327; 95% CI 4.976-11.677) and need of PRN drugs (B = 12.13; 95% CI 6.868-17.393) were the only significant predictors in the full model, both increasing BPRS score.* The whole model was statistically significant, $F(6,99)=17.362$, $p<0.0005$, $R^2$ adj=0.483.

## CONCLUSIONS

Although our findings were inconclusive as to whether or not an association was present between quantity of cannabis consumed the week before admission and psychiatric symptom severity, in our sample 40% of patients with a diagnose of psychosis/schizophrenia and 25% of patients with a diagnose of affective disorder reported cannabis use the week before admission.

**The high prevalence of cannabis use among acute inpatients with severe mental disorders points to the need of a systematic screening of cannabis use during admission and to the development of tailored interventions for this high risk group.** Standardized measures, such as the SJU, allow registering not only frequency of use but are also a suitable quantification tool.

**References**
1.Casajuana Kögel, C. *et al.* The Standard Joint Unit. *Drug Alcohol Depend.* **176**, 109–116 (2017).
2.Overall, J. E. & Gorham, D. R. The Brief Psychiatric Rating Scale. *Psychol. Rep.* **10**, 799–812 (1962).

***Conflicts of interest***
CO, SM, MTP and MS have received travel grants from Lundbeck, Jansenn and Pfizer, all outside the work for this project. HLP has been paid fees and awarded travel grants by Lundbeck, Lilly, Janssen, Pfizer, Rovi and Esteve, all outside the work for this project. AG has received honoraria and travel grants from Lundbeck, Janssen, D&A Pharma and Servier, all outside the work for this project. MBO has been paid fees by Lundbeck, all outside the work for this project.

LISBON ADDICTIONS 2019