Differences in PANSS score progression at first-episode psychosis in Children and Adolescents with cannabis use; A longitudinal prospective study

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Introduction

In terms of large-scale epidemiology, worldwide, cannabis is the most commonly used illicit psychoactive substance, and third overall, coming after alcohol and tobacco.(1) Cannabis is frequently used among individuals with first episode psychosis and is associated with poor clinical outcomes.(2) However, the association between cannabis use and the risk of psychosis still remains controversial and only few studies have investigated within whether changes in cannabis use are associated with changes in symptom levels(3)(4). Shedding light on this under-researched matter could have clinical implications for this patient group.

Objectives

The aim of this study is to evaluate the impact that cannabis has in clinical evolution on individuals with established first-episode psychosis in children and adolescents sample of patients.

Methods

A total of n=30 patients with first-episode psychosis who were hospitalized in an acute term stay psychiatric Unit (Hospital Sant Joan de Déu, Barcelona) were registered between October 2014 and Mars 2018. Included patients were followed during 1 year with assessments at baseline (n=30), 3 months, 6 months and 12 months.

Psychotic symptoms were measured using the Positive and Negative Syndrome Scale (PANSS) positive, negative, and general symptoms scores. Cannabis use was registered by self-report and confirmed by urine drug test. Database information was completed with electronic medical records. Comparative analysis was performed with IBM SPSS Statistics (Chicago INC) using Levene's Test for equality of variances, T-test for equality of means and simple linear regression for PANSS score tendency estimation.

Results

From 31 children and adolescents patients sample, 33% (10) had cannabis use and 67% (20) do not (figure 1). PANSS score tendency was respectively: y=-4.8x+41.8 (general symptoms in users), y=-8.4x+48.1 (general symptoms in non-users), y=-0.56x+15.8 (positive symptoms in users) y=0.28x+15.7 (positive symptoms in non-users), y=-2.9x+20.8 (negative symptoms in users), y=-3.97x+21.0 (negative symptoms in non-users).

Mean difference between cannabis users and non-users at PANSS score were respectively; at the baseline 3.50 (negative symptoms), 0.5 p=0.04(positive symptoms), 3.10(general symptoms); at 3 months: -4.60(negative symptoms), -2.65(positive symptoms), -8.3(general symptoms); at the 6 months 3.33 (negative symptoms), 3.67 p=0.05(positive symptoms), 5.33(general symptoms); at the year -3.00 (negative symptoms), 5.00 (positive symptoms), 7.50 (general symptoms).(figure 2, 3, 4)

Figure 1: Cannabis users in sample

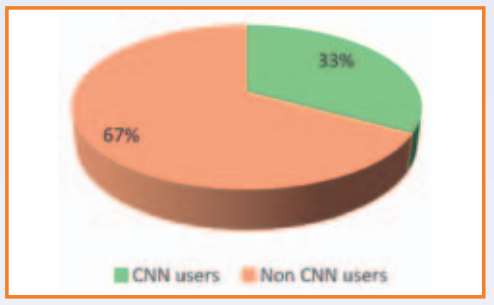


Figure 2: PANSS general symptoms score evolution

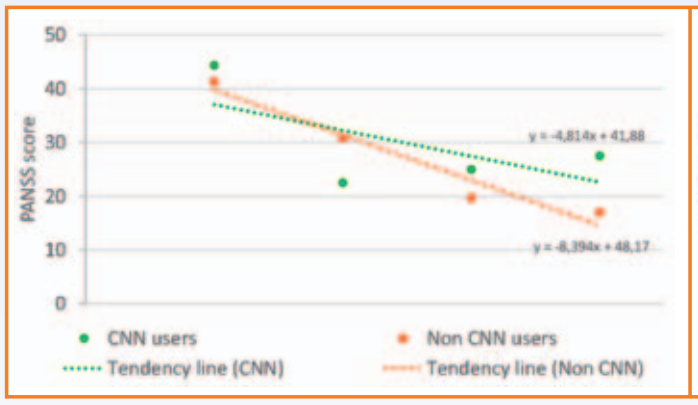


Figure 3: PANSS positive symptoms score evolution

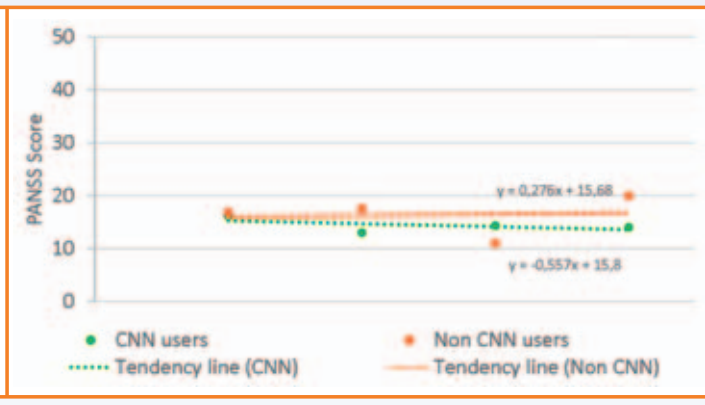
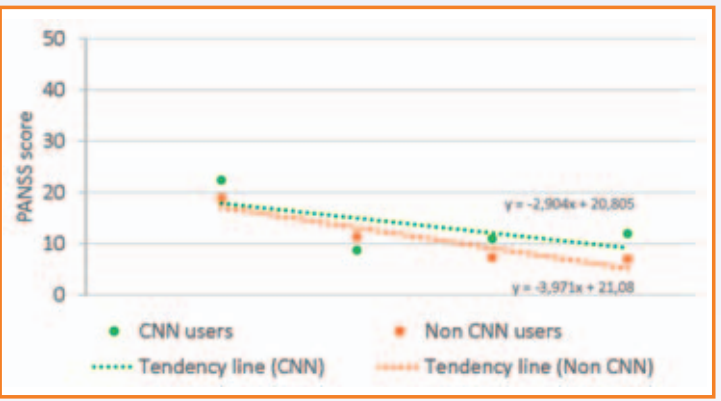


Figure 4: PANSS negative symptoms score evolution



Discussion

According to our results the tendency to decrease PANSS symptoms is more accentuated in those patients who do not use cannabis compared to patients who use cannabis. In terms of symptoms, in both groups, general symptoms are more likely to decrease compared to negative symptoms. (figure 2,4). Interestingly these results are inverted in positive symptoms were cannabis users had a better evolution in this score (figure 3). Statistically significant differences were found in positive symptoms at the third month, and positive symptoms and the sixth month. No other statistically differences were found.

Therefore, it should be borne in mind to include cannabis use assessment in first-episode psychosis in order to considerate this clinical evolution implication. Psychoeducation and prevention of adolescent cannabis use should be emphasised in adolescents using cannabis. Further studies are warranted to determinate association between psychosis symptoms evolution and cannabis use between adolescents.

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