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Original article

Reasons for cannabis use in first-episode psychosis: Does strength of endorsement change over 12 months?

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ABSTRACT

Background: Why patients with psychosis use cannabis remains debated. The self-medication hypothesis has received some support but other evidence points towards an alleviation of dysphoria model. This study investigated the reasons for cannabis use in first-episode psychosis (FEP) and whether strength in their endorsement changed over time.

Methods: FEP inpatients and outpatients at the South London and Maudsley, Oxleas and Sussex NHS Trusts UK, who used cannabis, rated their motives at baseline (n = 69), 3 months (n = 29) and 12 months (n = 36). A random intercept model was used to test the change in strength of endorsement over the 12 months. Paired-sample t-tests assessed the differences in mean scores between the five subscales on the Reasons for Use Scale (enhancement, social motive, coping with unpleasant affect, conformity and acceptance and relief of positive symptoms and side effects), at each time-point.

Results: Time had a significant effect on scores when controlling for reason; average scores on each subscale were higher at baseline than at 3 months and 12 months. At each time-point, patients endorsed 'enhancement' followed by 'coping with unpleasant affect' and 'social motive' more highly for their cannabis use than any other reason. 'Conformity and acceptance' followed closely. 'Relief of positive symptoms and side effects' was the least endorsed motive.

Conclusions: Patients endorsed their reasons for use at 3 months and 12 months less strongly than at baseline. Little support for the self-medication or alleviation of dysphoria models was found. Rather, patients rated 'enhancement' most highly for their cannabis use.

1. Introduction

High rates of substance use disorder have been reported among patients with severe mental illness [27,34] with cannabis the most popular [5,13,16,26,40] and at much greater extent than in the general population [5]. Persistent cannabis use by patients with an established psychosis has been associated with increased symptoms, hospital readmissions and absence of remission [41], more positive symptoms and a more continuous illness at follow-up [11]. It has also been shown to make patients more likely to relapse [26] and experience difficulties leading to violence and criminal behaviour [29]. In a systematic review by Zammit et al. [50], persistent cannabis use was also associated with increased relapse and non-adherence to treatment. Therefore, understanding why patients with psychosis use cannabis is greatly important for the development of successful interventions.

Several hypotheses have been proposed to explain why patients use substances [30]:

- secondary substance use disorder models, which postulate that substance use disorders are secondary to severe mental illness;

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- secondary psychiatric illness models, which assume that substance use disorders precede psychiatric disorders;
- common factor models, which propose that psychiatric and substance use disorders co-occur due to underlying shared factors;
- bi-directional models, which assume that psychiatric and substance use disorders activate and perpetuate each other;
- multiple-risk factor models.

The most popular of the secondary substance use disorder models, the self-medication hypothesis [19,20], proposes that patients take specific substances to relieve particular symptoms; substances are not chosen at random but have "psychopharmacological specificity." Khantzian [20] also argued that patients with schizophrenia might start taking substances, prior to the onset of the disorder, to self-medicate prodromal symptoms. Self-medication of symptoms caused by antipsychotic medication may also be occurring [36]. A variation of the traditional self-medication hypothesis, the alleviation of dysphoria model, proposes that substance misuse occurs to reduce unpleasant states such as boredom, depression and loneliness to which patients with severe mental illness may be particularly susceptible. This model assumes that patients do not choose specific substances to medicate specific undesired psychological states.

Findings from studies exploring self-reported reasons for substance use in patients with psychosis suggest that they largely use substances for their mood-enhancing properties and social effects with a small minority endorsing self-medication motives for their substance use. Spencer et al. [42] found that patients mainly reported using alcohol and cannabis for enhancement, social and conformity reasons and to cope with dysphoric experiences. Over half of the patients reported wanting to fit in with peers as the main reason for initiating substance use in a study by Laudet et al. [24]. Test et al. [46] found that the majority of patients said they used substances to relieve boredom followed by using as a social activity and to feel less anxious and more relaxed. Most patients in a study by Dixon et al. [7] reported using substances to get high and reduce feelings of depression followed closely by using substances to relax and to increase feelings of pleasure. Gregg et al. [15] also found that almost all patients with co-morbid alcohol or substance abuse/dependence reported using substances to "chill out or relax." Social reasons were also very important followed by relief of boredom. Finally, in a review by Gregg et al. [14], the 'alleviation of dysphoria' model was shown to be largely supported by the self-report literature with little evidence for the self-medication, common factor or bi-directional models of co-morbid substance use. Another review by Pérez et al. [33] also found that the 3 most popular reasons for substance use from self-report studies were, in order of preference:

- improvement in positive sensations;
- relieving dysphoria;
- social.

It has been shown that reasons for use differ between substances and disorders [47] and so it is difficult to generalise from these results as none of the studies reported findings from cannabis-specific analyses.

However, research on self-reported reasons for cannabis use, in particular, has provided similar evidence. Addington and Duchak [1] reported the most frequent reasons for cannabis use in a patient-group with schizophrenia were to increase pleasure and to get high, to relax and reduce depression and to be more sociable. In 2004, results from a study by Green et al. [12] showed that patients with psychosis most commonly reported using cannabis for positive mood alteration, coping with negative affect and for social activity reasons. Relaxation was the least popular reason for cannabis use together with general coping with negative mood and cognitive enhancement. Availability of cannabis seemed to be a very important reason for its use. Schofield et al. [37] reported that patients diagnosed with a schizophrenia-spectrum disorder reported using cannabis to relax, to have as an activity with friends and to relieve boredom. Less than a quarter of patients used cannabis to reduce the side effects of antipsychotic medication, or to reduce positive symptoms. Fowler et al. [9] found that using cannabis to reduce dysphoria was the most common reason, succeeded by social reasons and intoxication effects in their study. In Switzerland, Schaub et al. [35] reported that the majority of patients used cannabis to relax, get high and increase pleasure. Finally, in a study by Goswami et al. [10] all patients stated they used cannabis to increase pleasure and the majority of patients stated they used cannabis to get high, relax and satisfy curiosity. However, none of these studies were conducted with patients presenting with a first-episode of psychosis. To date, only 3 studies have explored the reasons for cannabis use in patients with a first-episode of psychosis [2,32,38]. Findings showed enhancement and social reasons to be mostly reported as reasons for use but all studies focused primarily on adolescents and two of them [2,38] utilized qualitative methods only. A systematic review by Kolliakou et al. [21] found little support for the self-medication hypothesis with studies mostly reporting enhancement, 'getting high' and alleviating negative states as the main reasons for cannabis use by patients with psychosis. No study, to date, has investigated reasons for cannabis use longitudinally. It is important to explore longitudinal changes in reasons as they might be malleable constructs susceptive to intervention and differ with time and circumstance. Finally, research so far has not utilized Urinary Drug Screen (UDS) to corroborate use and explore with regards to different reasons.

The aims of this study are to:

- investigate how strength in endorsement of reasons for cannabis use may vary over 12 months;
- explore the specific differences between self-reported reasons for cannabis use at study entry and then 3 and 12 months later;
- examine how meaningful alternative confirmation of cannabis use is by collecting UDSs at all 3 time-points, in a sample of patients presenting with a first-episode of psychosis.

We expected that the strength of endorsement would weaken over time with patients assigning lesser importance to reasons at 3 and 12 months compared to baseline. Based on the relevant literature, we anticipated that, at all 3 time-points, alleviation of negative affect would be the most strongly endorsed reason for cannabis use. We did not anticipate differences in reasons for cannabis use between patients with a positive or negative UDS.

2. Methods

This study was nested within the Physical health and substance Use Measures in first-onset Psychosis (PUMP) study, part of the IMPaCT (Improving Health and Reducing Substance Use in Psychosis) research programme. PUMP is a prospective observational cohort, of patients with a FEP, which was followed up for 12 months to test the association between lifestyle (diet, exercise and substance use) and antipsychotic medication factors with (a) psychotic symptoms and (b) components of the metabolic syndrome. Written informed consent was obtained from all patients after study had been explained and ethics approval was granted by the Ethics Committee at the Institute of Psychiatry, King's College London, UK.