How Psychiatric Comorbidity and Mood States Influence Craving and Substance Use in Daily Life?

An Ecological Momentary Assessment Study in Patients with Alcohol, Tobacco, Cannabis and Heroin Use Disorders

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Disclosures

Funding:
- PHRC 2006-2012
- MILDT 2010
- Research Grant AAP-Recherche-CRA (20091301018)
- CNRS ATIP

The sponsors had no role in the study design, collection, analysis or interpretation of the data

No conflict of interest
Background

Strong association between psychiatric and addictive disorders

Negative impact of psychiatric comorbidity on addictive disorders
  - Poorer substance use outcomes
  - Poorer quality of life
  - Higher rate of relapse

Mechanisms underlying this association remain poorly understood
Hypothesis

Anxiety / Mood Disorders

Negative affects

Craving

Relapse
Objective

To examine the effect of

- comorbid mood or anxiety disorders
- negative emotional states

On craving intensity and substance use

Among patients treated for addiction

In real-time and within the natural conditions of daily life using mobile technologies
Methods - Participants

Current substance use disorder for
  o Alcohol
  o Tobacco
  o Cannabis
  o or Opiates

Recruited through an outpatient addiction clinic
  Bordeaux, South West, FRANCE

Enrolled at treatment entry
Methods - EMA

Ecological Momentary Assessment (EMA)
Stone and Shiffman, 1994

Real-time data collection
  - Reduce recall bias

Evaluation in the natural environment of the subject (daily life)
  - Ecological validity
  - Influence of environmental factors

Repeated assessments across the day
  - Time course
  - Prospective relationship between variables
Methods - Procedure

Inclusion

Treatment initiation: target quit date

MINI - Plus

14-day EMA period

Substance use
- Substance that initiated treatment

Craving intensity (Seven-point scale)
- Maximum level since the last assessment

Negative mood states (Seven-point scales)
- Sad mood
- Anxious mood

Perceived stress (Seven-point scale)
- Negativity of event

Electronic interviews
- 4 per day
- Beep call
Methods – Statistical analysis

Hierarchical linear and non-linear models

- Multi-level structure of the data
  - EMA: within-person
  - Diagnosis: between-person

Models

Psychiatric comorbidity → EMA variables

EMA variables T0 → EMA variables T1
Results – Sample characteristics

- 159 participants included

- Socio-demographic characteristics
  - 36.7 y.o. (SD=10.8)
  - Males 67%
  - Employed 57%
  - Living with family ± children 70%

- Psychiatric comorbidity (current)
  - Mood disorder 40%
  - Anxiety disorder 49%
  - Mood and/or Anxiety disorder 61%
Results – EMA reports

Average response rate: 83 % (6346 observations)

Main problematic substance use 38 %

Craving Intensity 3.6 (SD=2.1)

Sad mood intensity 3.7 (SD=1.3)

Anxious mood intensity 3.7 (SD=1.5)

Perceived stress 3.8 (SD=1.6)
Results – Craving / Use

\[ \gamma = 0.136 \]
\[ p < 0.001 \]
Results – Craving / Use

Current Anxiety and/or Mood Disorders

\[ \gamma = 0.188 \]
\[ p < 0.001 \]
Results – Psychiatric comorbidity / Craving and Use

Current Anxiety and/or Mood Disorders

γ = 0.611
p = 0.019

γ = 0.754
p = 0.004

Craving

Use

CPDD 2016, Palm Springs, CA, June 2016
Results – Psychiatric comorbidity / Craving and Use

Current Anxiety and/or Mood Disorders

Craving T0

γ = 0.694

p = 0.003

Use T1

γ = 0.694

p = 0.003
Results – Psychiatric comorbidity / Mood states

Current Anxiety and/or Mood Disorders

γ = 0.604
p < 0.001

γ = 0.640
p < 0.001

γ = 0.295
p = 0.046

Sad Mood

Anxious Mood

Stress
Results – Mood states / Craving

Sad Mood T0

Anxious Mood T0

Stress T0

Craving T1

CPDD 2016, Palm Springs, CA, June 2016
### Results – Mood states / Craving

<table>
<thead>
<tr>
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<th>T0</th>
<th>T1</th>
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*Time*
Results – Mood states / Craving

w/ anxiety/mood disorders
N=92

T0
Sad
Anxious
Stress

T1
Craving

w/o anxiety/mood disorders
N=60

T0

T1
Sad
Anxious
Stress
Craving

Craving
Results – Mood states / Use

Sad Mood T0

Anxious Mood T0

Stress T0

Use T1

time

CPDD 2016, Palm Springs, CA, June 2016
Results – Mood states / Use

w/ anxiety/mood disorders

T0 | T1
---|---
Sad |  
Anxious | X
Stress | X

w/o anxiety/mood disorders

T0 | T1
---|---
Sad | X
Anxious | X
Stress | X
Use | X
Summary of results

Anxiety / Mood Disorders → Negative affects → Craving → Substance Use
Acknowledgments
and Thank You
Discussion

Predictive value of craving intensity on further substance use

Higher severity of addiction among patients with psychiatric comorbidity
  - not mediated by negative affects

Effect on substance use, not completely explained by increase of craving