S116

the 6% WH-250 (n=3). Origin of the sample was Catalunya 23% (n=11), other provinces of Spain 46% (n=22); other EU countries 23% (n=11) and internet-unknown country 8% (n=8). From the (n=47) samples, were delivered (n=16) in 2012, (n=12) in 2013, (n=11) in 2011, (n=3) in 2010 and (n=3) in 2014.

*Conclusion* JWH'S represent a low percentage of new psychoactive substances analyzed. Its presence in the market seems decreasing.

*Disclosure of interest* The authors have not supplied their declaration of competing interest.

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#### EW06

# Is lithium implicated in tobacco addiction?

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*Introduction* Tobacco is a source of mineral elements that can affect human health in various ways, such as lithium, which is used as a psychiatric medication. Lithium salts are used as mood-stabilizing drugs and indicated in the treatment of manic-depressive psychosis.

*Objective* Studying the lithium content in tobacco over the smokers' plasma content and evaluate the potential role of lithium in tobacco addiction.

*Methods* A total of 18 different tobacco products (cigarettes, smokeless and water pipe tobacco) and 125 plasma samples (45 from smokers, 10 from ex-smokers and 70 from non-smokers) were collected to determinate the lithium content. Tobacco samples were digested with nitric acid and lithium concentration was measured by inductively coupled plasma-optical emission. The collected plasma samples were diluted 1/10 with a nitric acid solution and the lithium level was measured by inductively coupled plasma-mass spectrometry.

*Results* The average concentration of lithium in the cigarettes  $(16.59 \pm 0.59 \,\mu g/g)$  was higher compared to those in the smokeless tobacco  $(8.39 \pm 4.44 \,\mu g/g)$  and in the water pipe tobacco  $(6.13 \pm 6.32 \,\mu g/g)$  but with no significant difference (P=0.182). For plasma lithium levels, there was no significant difference (P=0.186) between smokers and non-smokers  $(6.20 \pm 6.24 \, \text{vs.} 4.98 \pm 6.20 \,\mu g/g)$ . However, a significant negative correlation was noted between plasma and the lithium content in tobacco products (r=-0.435; P=0.04). The lithium plasma level was significantly and negatively correlated with the dependence score (r=-0.316; P=0.031).

*Conclusion* The correlation between plasmatic lithium and dependence score in smokers suggests that lithium would be involved in tobacco addiction probably through his regulating action of mood.

*Disclosure of interest* The authors have not supplied their declaration of competing interest.

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**EW08** 

# Optimization of therapy clinic-immunological disorders with heroin addiction

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The immune defect can be found in all forms of addiction (Frank, 2004). These data determine the use of funds in immunotropic heroin addiction.

*Objective* To study the effectiveness of antidepressant sevpram (citalopram) and its combination with galavit (imunomodulyator) on a background of standard pharmacotherapy in heroin addiction. To evaluate the immune status of the following methods:

- evaluation of lymphocytes (CD4), (CD8) with monoclonal antibodies in cytotoxicity assay;

- determination of serum immunoglobulin classes A, M, G performed by turbidimetric analysis;

- the concentration of the CIK (circulating immunnokompleks) was determined by precipitation with polyethylene glycol.

Patients of the 1st group was administered into the sevpram 10 mg/day in combination with galavit (25 mg daily); group 2 – only the standard therapy (ST).

The results of research As a result of the treatment in the first group showed an increase of 34.8%) the number of immunoglobulin A, which however does not reach the level of healthy people and reducing the number of circulating complexes by 13.8%, which also indicates the normalization of this index. The first group – a significant improvement of immunological parameters increase of 3 indicators (CD4, CD8, CD4/CD8) and a decrease in the CIK. Analysis of changes in indicators Hamilton Rating Scale for Depression, also notes a reduction in the symptoms scores.

*Disclosure of interest* The authors have not supplied their declaration of competing interest.

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#### EW09

# Exercise addiction: Identification and prevalence in physically active adolescents and young eating disordered patients

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*Introduction* Exercise addiction is characterized by increasing exercise amounts, withdrawal symptoms and lack of control. Eating disorders and exercise addiction often appear together, but only eating disorders are recognized as diagnoses. However, exercise addiction can exist independently from eating disorders and can be as harmful as any other addictive behavior.

*Objectives* The Exercise Addiction Inventory (EAI) is useful to identify exercise addiction symptoms in adults and prevalence rates of 3–10% have been found. But a scale for adolescents does not yet exist even though behavioral addictions seem to be more prevalent among young people.

*Aims* To develop an instrument for identification of exercise addiction in adolescents and to estimate the prevalence and negative consequences.

*Methods* We developed a Youth version of the EAI and screened 383 adolescents in sport settings and 69 patients from an eating disorder department (age range 11–20 years).

*Results* The psychometric properties of the scale were good (Cronbachs alpha 0.71). The prevalence of exercise addiction was 5.5% in adolescents in sport settings and 21.2% in eating disorder patients. We found a positive linear relationship between EAI-score and "high weekly exercise amounts" (r = 0.4, P = 0.00), "the tendency to exercise in spite of injury" (r=0.4, P=0.00), "feelings of guilt when not exercising" (r = 0.5, P = 0.00), "reduced sport performance related to overtraining" (r = 0.2, P = 0.00), and "food dominating life" (r = 0.2, P = 0.00).

*Conclusions* On basis of this study, we recommend the EAI-Y for identification of exercise addiction in adolescents. Early identification is important since it can prevent excessive and obsessive exercise, injuries, reduced sport performance and eating disorder pathology.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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#### **EW10**

#### PCP analogues in samples of Barcelona from 2009 to 2015

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Introduction Novel psychoactive substances (NPS) use is progressively increasing year on year. The new analogues of phencyclidine are frequently sold as legal dissociative anesthetic drug with hallucinogenic and sedative effects, a legal alternative to ketamine, acting as a high affinity and selective ligand of NMDA receptor antagonists.

Objectives To describe the presence of 3- and 4-MeO-PCP in samples delivered to Energy Control from 2009 to 2015 in Spain.

Methods A total of 21,198 samples were analyzed from august 2009 to august 2015. Only those samples containing 4-MeO-PCP or 3-MeO-PCP were studied. They were analyzed by Energy Control, a Spanish harm reduction NGO that offers the possibility of analyzing the substances that users report. Analysis was done by gas chromatography-mass spectrometry.

Results All the samples resulted to be the acquired drug of the consumer. Three samples were adulterated with substances as tramadol, cocaine, acetone among others.

Conclusions Three and 4-MeO-PCP consumption is not found to be an emerging issue according to the results of our samples. Even the potential harmful effects of these dissociative drugs, our indirect indicator seems to show that consumption has not increased. A more precise monitoring would make a better approach to the real consumption and the impact of these substances in our society.

Disclosure of interest The authors declare that they have no competing interest.

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#### **EW11**

## **Methylone consumption** characterized through samples handled by users

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Introduction In recent years, the increasing use tendency of NPS has motivated both awareness and concern about their identification and potential harmfulness. Synthetic cathinones represent a significant proportion of the NPS available and methylone is one of the most frequently found in Europe.

The aim of the present study is to determine methy-Objectives lone presence and characteristics from the samples analyzed by Energy Control between the years 2009 and 2015 in Spain.

Methods From all 21,198 samples analyzed from august 2009 to august 2015, only those in which methylone was found are studied (n = 140). The samples have been analyzed by Energy Control, a spanish harm-reduction NGO that offers to users the possibility of analyzing the substances they intend to consume. The analysis is done by gas chromatography-mass spectrometry.

From the 140 samples containing methylone, 87 were Results handled as methylone, 20 as MDMA, 8 as other synthetic cathinones and 25 as other substances. The peak of consume was registered in 2011 with 41 samples then the number decreased until 10 samples in 2015.

Results suggest that methylone is most frequently Conclusions handled as methylone or as MDMA and that its consumption could be decreasing. Further pharmacokinetic, pharmacodynamic, clinical and epidemiological studies should be conducted to enhance the knowledge not only about methylone consumption, but also about synthetic cathinones in general in order to assess their potential risk and study the complications and its management.

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#### **EW13**

## Presence and evolution of a new psychoactive tryptamines branch

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