

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.

**Acknowledgements** Supported by grants of ISCIII-FEDER-(RTA RD12/0028/0009), FIS-PI14/00715 and the European Commission-Drug Prevention and Information Programme 2014-16, JUST/2013/DPIP/AG/4823-EU-MADNESS project). L. Galindo is a Rio-Hortega-fellowship-(ISC-III; CM14/00111).

<http://dx.doi.org/10.1016/j.eurpsy.2016.01.123>

## 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 ( $16.59 \pm 0.59 \mu\text{g/g}$ ) was higher compared to those in the smokeless tobacco ( $8.39 \pm 4.44 \mu\text{g/g}$ ) and in the water pipe tobacco ( $6.13 \pm 6.32 \mu\text{g/g}$ ) 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 ( $6.20 \pm 6.24$  vs.  $4.98 \pm 6.20 \mu\text{g/g}$ ). 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.

<http://dx.doi.org/10.1016/j.eurpsy.2016.01.124>

## 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 immunokompleks) 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.

<http://dx.doi.org/10.1016/j.eurpsy.2016.01.126>

## 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).