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collected with a phytoplankton net from temporary puddles in "El Volcán" town in San Luis province. In the laboratory, the organisms were kept in Bold´s Basal Medium (BBM). The initial biomass (6 x 10^6 cells/mL) was exposed to contaminants such as polybrominated biphenyls (BDE-209) which toxicity is known, for 96 h. Cell count examination was performed using a Neubauer chamber under Optic Microscope (400X). Chlorophyll stress index and oxidative stress enzymes (ROS) were determined with spectrometry. *Oocystis* sp. showed sensitivity with a 50% growth inhibition with respect to the control from 100 μg/L of BDE-209. Catalase activity increased with values greater than 100 μg/L of BDE-209; while TBARS showed differences only in algae exposed at 100 μg/L of BDE-209. Chlorophyll showed signs of stress and senescence from 100 μg/L BDE-209 (value 0.03 mg/g). *Oocystis* sp. showed toxicity response, which provides relevant information about sensitivity, and they can be used as a model in environmental risk studies to BDE-209.

A80
DISPENSED MEDICINES EVALUATION IN ELDERLY PATIENTS OF PAMI SOCIAL SECURITY IN A SAN LUIS CITY PHARMACY

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Medications consumption evaluation, especially in the elderly, is indispensable to contribute to improving pharmacological therapy in this type of patient. Association between age and drug use, due to the higher prevalence of chronic diseases and comorbidities, is common in the elderly. Our objective was to analyze medicines dispensations in PAMI Social Security patient's in a pharmacy in San Luis. An observational and cross-sectional study of the dispensations in PAMI Social Security patients from March to May 2019 was carried out in a San Luis city pharmacy. Drugs (D) were coded according to the ATC Classification System of the World Health Organization. 3340 D present in 2420 prescriptions were analyzed, corresponding to the following groups: C (35%), A (22%), N (18%), H and M (6%), B (4%). The percentages in descending order, within each group were: C: ACE inhibitors (C09), lipid-lowering agents (C10), and beta-blockers (C07). The most dispensed of the C09 group were losartan and enalapril, followed by valsartan; in the C10 group, rosuvastatin and atorvastatin, finally in the C07 group was carvedilol. A: the most dispensed were: hypoglycemic agents (A10) and antacids (A2); then vitamins (A11) and those of group A03. Within the A10, metformin was the most dispensed; A2 group: pantoprazole, esomeprazole and omeprazole, and ranitidine reached 17%. Vitamin D3 is the most indicated within A11. N: 32% were antiepileptic (N03), 25% Psycholeptics (N05) and 20% Psychoanaleptic (N06), and 14% analgesics (N02). Within N03, clonazepam (54%) and pregabalin (22%) were the most dispensed; in N05, alprazolam (51%); and in N06 memantine and sertraline were the most dispensed. In N02 paracetamol reached a higher percentage. The most prescribed drugs are from the cardiovascular, digestive, and nervous systems, indicating the main pathologies that are prevalent in this age group, such as hypertension, dyslipidemia, diabetes mellitus, and probably insomnia and anxiety. Excessive prescription of proton pump inhibitors in polymedicated and more vulnerable elderly was probably realized by the risk of gastric ulcer appearance, although in most cases this is not justified by the possibility of serious adverse reactions' occurrence. Vitamins are not necessary if the diet is adequate. High dispensing of benzodiazepines is alarming because these drugs are not necessary if is maintained good sleep hygiene. Moreover, these drugs can produce dizziness, and as a consequence, falls and possible hip fractures that can lead to death in the elderly. It is important to reduce its prescription because they implicate an elevated risk in the elderly and a high cost for the health systems.

A81
A NOVEL METHOD FOR HEAVY METALS DETERMINATION IN AEROBIOLOGICAL SAMPLES

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Atmospheric air carries a big number of particles and environmental pollutants coming from anthropogenic activities, to which people are exposed. Metal pollution has been increasing rapidly over the past century in relation to the growth of the human population's contaminants production. Thus, aero particles such as pollen grains may contain various trace elements, and their amounts vary from one species to another. They can present traces of metals such as lead (Pb), barium (Ba), and manganese (Mn), which are among the most common air and soil contaminants, and they are considered toxic to living beings. In the present work, we propose a simple and fast method for the multielement determination of traces in aerobiological samples. The sample of aeroparticles was obtained with a volumetric Lanzoni sensor, which is located on the terrace of the National University of San Luis. This device allows the capture of particles suspended in the air with a week periodicity, and with a suction flow of 10 L of air/min, similar to the volume of air inhaled by the human lung. The pollen content was analyzed for three months with continuous aerobiological sampling, in the atmosphere of the San Luis city, Argentina. Aerobiological samples were observed and readied with an optical microscope at 400X and they were identified through palynological atlases and with the palynotheque belonging to Aerobiology´s laboratory. For multielement determination, a mass spectrometer with inductively coupled plasma (ICP-MS) was used. The aeroparticle samples were subjected to acid digestion at 90 ℃ for 1 h. The conditions of analytical determination were optimized. The nebulizer gas flow used was 0.85 L/min and the RF power was 1200 W. The pollination period studied was from February to April of 2019. Compared

with other pollen types, Chenopodiaceae and *Artemisia* were the most abundant in the atmosphere of San Luis during the analysis period. Linear regression models were used to analyze the metals vs. pollen content. Positive associations were found between Mn and Chenopodiaceae (r=0.86, P=0.0015). In the same sense, it was observed positive associations between Pb and Chenopodiaceae (r=0.78, P=0.0026). The maximum concentration values for Chenopodiaceae (30 pollen grains/m^3 of air) were recorded in March, while the maximum values for *Artemisia* (11 pollen grains/m^3 of air) were recorded in February. In this study, during the pollination period, an increase in the elemental content was observed. Therefore, the metals could be transported by aero particles such as pollen grains increasing respiratory disorders.

A82
EFFECT OF THE JOINT ADMINISTRATION OF KETAMINE AND FLUOXETINE IN POSITIVE CALBINDINE INTERNEURONS OF THE BASILATERAL NUCLEUS OF AMYGDALA IN *RATTUS NORVEGICUS*: PRELIMINARY RESULTS

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There are different pharmacological treatments for depression, limited in their effectiveness and many have very long latency periods. Current research points to NMDA antagonists as possible therapeutic targets of this disorder. The objective of this work was to assess at a behavioral level the synergistic interactions between the antidepressant of the SSRIs group fluoxetine, and ketamine, a non-competitive NMDA receptor antagonist, and correlate the findings with structural changes in the basolateral nucleus of the tonsil with respect to positive calbindin Interneurons. Holtzman rats that were treated with fluoxetine were used. 10, 15, and 20 mg/kg and ketamine. 2.5, 5, and 10 mg/kg and subsequently were evaluated in the forced swim test each group consisted of n=20. Fluoxetine in doses of 10 and 15 mg/kg and ketamine in doses of 2.5 and 5 mg/kg did not produce a significant decrease in immobility time. On the contrary, if significant decreases were observed with fluoxetine 20 mg/kg (P<0.01) and ketamine 10 mg/kg (P<0.05). Likewise, there was a significant decrease in immobility time when fluoxetine 10 mg/kg + ketamine 2.5 mg/kg (P<0.01) and fluoxetine 15 mg/kg + ketamine 5 mg/kg (P <0.0001). Twenty-four hours after the test, positive calbindin interneurons of the basolateral nucleus of the tonsil were analyzed by immunohistochemistry. Each group consisted of n=3. It was observed that the saline group presented significant differences with the group treated with 20 mg/kg of fluoxetine (P=0.001), with the group treated with 5 mg/kg of fluoxetine (P=0.0001) and with the group treated with 5 mg/kg of fluoxetine + 2.5 mg/kg of ketamine (P=0.0001), the latter being the one with the least positive calbindin interneurons. Ketamine groups have not yet been analyzed. These results indicate that co-administration of fluoxetine and ketamine can induce a more potent antidepressant activity than when used alone. In addition, the decrease in the density of positive calbindin interneurons in the basolateral nucleus of the amygdala could be directly related to the action of drugs on these neuronal populations, thereby increasing neuronal plasticity and being able to restore excitatory and inhibitory balance.

A83
CENTRAL, PERIPHERAL, AND HEMODYNAMIC EFFECTS OF NANOFORMULATED ANANDAMIDE DURING HYPERTENSION

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Hypertensive lesions –dependent on inflammatory processes– would cause alterations at the central nervous system level with peripheral and hemodynamic consequences. Anandamide (AEA), an endocannabinoid, protects neurons from inflammatory damage. However, the administration of free AEA may produce central side effects, but its controlled release by nanoformulations would reduce or eliminate them. We evaluated possible effects of nanoformulated AEA on blood pressure, central and systemic inflammatory markers, and behavioral alterations in SHR and WKY. We used male rats of 250–300 g (N=7 per group) normotensive (WKY) and hypertensive (SHR) with and without treatment with nanoformulated AEA at a weekly dose of 5 mg/kg IP, for four weeks. We determined systolic blood pressure, expression of WT-1, Hsp-70, AT1, and iNOS in brain tissue, behavior, and blood levels of ultrasensitive PCR, IL-1, IL-6, TNF-alpha, Hsp-70, NADPH oxidase, and nitrites. We use ANOVA II and the Bonferroni post-test (P<0.05). The SHR denoted anxiety, overactive locomotor activity, and elevation of inflammatory and oxidative stress markers compared to WKY. At the cortical brain level, the SHR showed greater expression of WT-1, AT1, and iNOS and lower expression of Hsp70. The treatment with nanoformulated AEA significantly reduced systolic blood pressure and expression of WT-1, AT1, and iNOS, and Hsp70 increased within the cerebral cortex (P<0.01) in SHR rats. Additionally, nanoformulated AEA reversed