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ABSTRACT BOOK

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reactions were anaemia, hypokalaemia, hypomagnesaemia, phlebitis, nausea, liver problems. Given the different weight of the subjects, the dosage was different.

#### MONITORING OF ATYPICAL ANTIPSYCHOTIC DRUGS SUPPLIED BY THE PHARMACY OF FRATELLI PARLAPIANO HOSPITAL, RIBERA (AG), ITALY

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Mental disorders are among the worst and widespread health problems, they are associated with important repercussions on the psychosocial sphere and to high economic costs. Antipsychotic drugs used in treatments of these pathologies belong to different chemical classes, but associated to biochemical effects, pharmacological, and in part super imposable. A retrospective survey has been led on external patients, they were under antipsychotic drug treatments already in the archive and arrived to the attention of the Pharmacy of the F.lli Parlapiano Hospital, Ribera (AG), Italy in 2013. For each patient have been extrapolated: gender, date of birth, place of residence, ICD-9CM, pharmacological therapy, and prescribing centre. Collected data have been calculated through Microsoft Office Excel to notice: prevalent diagnosis; prescribed drugs; prevalence by age group; gender, and off label prescribing in patients suffering from dementia. This survey is composed of 535 patients: 463 suffering from mental disorders and 72 suffering from degenerative diseases of SNC (especially Alzheimer). The distribution of psychic and neurological disorders in the two genders is balanced and the average age is 61.55. 64.7% live in the province of Agrigento and are treated at CSM of Ribera. 434 patients suffer from non organic psychosis; 14 patients suffer from organic psychosis; 70 patients suffer from a moderate form of Alzheimer, 2 suffer from other forms of dementia, while for 25 patients no diagnosis has been noticed as the medical prescription had been done by prescription SSN. Prescribed drugs have shown the following percentages: olanzapine 33.04%; quetiapine 33.19%; risperidone 17.97%; aripiprazole 7.4%; clozapine 4.02%; asenapine 1.69%; paliperidone 1.27%; ziprasidone 0.42%. It is a common opinion in the international scientific literature that a wise use of antipsychotic drugs of second generation gives important advantages in long term treatment of psychotic disorders.

#### BIOMARKERS OF OXIDATIVE STRESS AS AN EARLY WARNING SYSTEM TO DETECT *IN VITRO* XENOBIOTICS' TOXICITY: EFFECTS OF SUB LETHAL DOSES OF BIS (2-CHLORO-1-METHYLETHYL) ETHER IN CELL CULTURE

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Bis [2-chloro-1-methylethyl] ether (BCMEE) is a  $\beta$ -haloether,

produced as a by-product from the manufacture of propylene glycol and oxide. It has been demonstrated that BCMEE can induce liver cancer in male mice and lung cancer in female mice. Furthermore, supporting the concern regarding the carcinogenicity of BCMEE, haloethers with structural homology to BCMEE have shown evidences of carcinogenicity. The aim of this work was to determine the effects of sub lethal doses of BCMEE on cell lines, focusing on oxidative stress markers, due to the well know crosslink between xenobiotics exposure, oxidative stress and chronic diseases, such as cancer. Fibroblasts and hepatoma cell line (HS-68, HEP-G2), were exposed to increased concentration of BCMEE (1.5-150  $\mu$ g/100 mL) for 72 h. Toxicity was assessed by MTT test while oxidative stress was assessed by measuring the MDA (Malondialdehyde) levels and by the detection of intracellular ROS. The results show that, on both cell lines, BCMEE induces a significant vitality reduction, up to the 85%, in a dose-dependent manner in respect of the control ( $P < 0.05$ ); a significant increment of ROS (200 vs 50 relative fluorescence) and MDA (0.5 vs 1.5  $\mu$ g/g T.P.) was also detected compared to the control ( $P < 0.05$ ), that positively correlate with vitality reduction. In general, the overall results show that, in cellular system, BCMEE at sub-lethal levels can generate oxidative stress, confirmed by the increase of ROS and MDA. Considering the link between ROS and chronic diseases, such as cancer, BCMEE can represent a significant potential for environmental contamination.

#### SALINITY STRESS RESPONSE IN THREE SPECIES OF SPARIDAE CANDIDATE FOR ORGANIC AQUACULTURE

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*Diplodus puntazzo*, *D. vulgaris* and *D. sargus* are three fish species common in the Mediterranean and already used in polyculture; nowadays these species are considered under a biological aquaculture perspective. In this study the response to sudden salinity variations was evaluated, in order to assess their feasibility to grow, under extensive conditions, in salt-works. The markers assessed cover both primary and secondary biomarkers of stress response and biochemical stress markers related to quality of the products. For each species, fishes were distributed into three tanks: control (37‰ salinity), salinity stress (50‰ salinity) for 3 h (50-3), salinity stress for 6 h (50-6). The cortisol and glucose, among the hematic parameters, showed a significant increase in stressed organisms, depending from both the exposure time and the salinity level. In the muscle, the lactate showed significant differences ( $P < 0.05$ ) in all the species, confirmed by the levels of Hsp70 protein, depending from the exposure period, although the highest levels were found in *D. puntazzo*. The water muscular percentage content did not showed significant variations, suggesting the ability to modulate the ionic balance under the tested conditions. Overall, the results indicate that according to the survival and the biochemical responses, the three species evidenced a certain grade of adaptation to transitory salinity variations.