

Translation by Patrizia Rustichelli-Stirgwolt

## The review of the Italian association of psycho-neuro-endocrine-immunology

Edited by Francesco Bottaccioli

# PNEI NEWS

The new knowledge of science and health

Autism and Schizophrenia:  
new ideas and experiences



Pnei News – bimonthly review – nr 6 – year VIII – November – December 2014

**PNEI NEWS NR 6 – November –December 2014**

## **EDITORIAL**

### **Page 3. Only by seeing the whole picture, new ideas can arise**

Francesco Bottaccioli

## **NEW IDEAS ABOUT SCHIZOPHRENIA**

### **Interview with Emily Severance from Johns Hopkins University**

#### **Page 4. The role of the gastro-intestinal tract on schizophrenia**

Sensitivities and allergies to certain food generate intestinal inflammation whose role on severe mental disorders such as schizophrenia has now been ascertained. This evidence leads to a new vision and new treatments for the prime psychiatric disorder.

Paola Emilia Cicerone

#### **Page 7. Schizophrenia: a many-faceted disorder affecting the whole person.**

Based on the theory that schizophrenia is caused by a dopamine receptors disorder, the pharmacological treatments for schizophrenia have provided poor results. The new discoveries motivate to further investigate new paths to better understand this multi-factorial, heterogeneous and fluctuating pathological phenomenon.

Francesco Bottaccioli

## **DOSSIER: STEM CELLS**

### **Page 12. Beyond tissue regeneration**

Neural stem cells play an immunomodulatory role in neuroinflammatory disorders.

Giulio Volpe, Iacopo Bicci, Stefano Pluchino

### **Page 19. Autism: new frontiers**

The diagnoses of autism spectrum disorders are increasing worldwide. No effective pharmacological treatment has been found until now. At the present time new integrative medicine approaches are on the horizon. They include special diets, sensorial integration and behavioral therapy. A pilot-study indicates also stem cells transplant as a possibility.

Dario Siniscalco, Nicola Antonucci.

## **EDITORIAL**

### **Only by seeing the whole picture, new ideas can arise**

Francesco Bottaccioli – Sipnei Founder and Honorary President

The last issue of *Science* reports the speech held by Phillip Sharp, Professor at the Department of Biology at the Massachusetts Institute of Technology (MIT), on occasion of his Presidential Address at the Association for the Advancement of Science<sup>1</sup>. The core of his argument lies on the challenges human species are about to confront.

Human society is facing a rapid growth in terms of number of inhabitants of the Earth (9 billions) and increased levels of consumption (hundreds of millions of Indian and Chinese consumers will have access to the global market). To face such unprecedented set of global challenges, it is necessary to integrate the diverse branches of scientific knowledge. Sharp says that only the convergence of science of life, social and physical science will accelerate the process of innovation that is urgently required in this very moment. Thus to achieve innovation it is necessary to integrate the knowledge, tear down the barriers separating the diverse branches of science and work on a constant reciprocal enrichment. It seems that by now the integration of knowledge has become an indisputable fact fiercely advertised by the most important scientific organizations around the world. Actually it is not exactly like this. First of all because a scientific ideal often hides old and refuted ideas such as the research for a technology in order to produce more food (maybe GMOs) without ever questioning the level, the hierarchy and characteristics of consumption in the Western countries as well as the productive and social structure which support them and that we are exporting in the rest of the world. Secondly, because the new theorists of integration do not criticize the market and the organizational epistemological requirements which are the foundations justifying the separation among sciences. For this reason integration of sciences is doomed to fail if left in their hands...and with it innovation as well.

The most recent studies on severe psychiatric disorders show very clearly that a vision of the whole picture helps producing new ideas and promoting new treatments, some of them are highly innovative.

More than a century ago since the first theories to the best of present knowledge, schizophrenia is considered as an inexplicable and scarcely curable brain disorder. The same can be applied to the most recent autism spectrum disorders. The attitude towards these patients has shifted from considering them as a danger and thus marginalizing them into asylums, to a barely hidden tolerance made it possible by the life-long psychopharmacologic treatments and the sacrifice of their families.

The multifaceted Twentieth Century psychiatry with all its branches (from psychoanalysis, cognitive psychotherapy to the psychopharmacology and the use of invasive technologies) took into consideration only the mind of the patient and found it was deficient, disconnected and delirious. They never bothered to consider that this mind was as a conjoint with its psychological experience as well as the whole organism. Scientific research has recently started to investigate the

relationship among nutrition, intestinal conditions, levels of peripheral inflammation, immune disorders (in terms of allergy and autoimmune diseases) stress, trauma and mental status. New interesting discoveries document now these relationships and thus open the way to preventive and therapeutic interventions that are very effective and linear and can be achieved through a revolution of the ideas about the determinants of health rather than by a spectacular technological leap which nonetheless can not be neglected.

We devoted the Dossier of this issue to the use of stem cells for treating major neurological and psychiatric disorders. The use of neural precursor cells has still a long way to go and it is full of traps and obstacles that can be avoided by working with integrity and avoiding improvisation. It is however a feasible path that requires the integration of the fundamental determinants of health (nutrition and physical activity, a good management of stress and emotional conflicts, caution and a parsimonious use of medication). A path that can mark a turning point in the treatment of major psychiatric disorders which we will continue to tackle also in the following issues.

1. Sharp P.A. (2014) Meeting global challenges: discovery and innovation through convergence, *Science* 346: 1468-1471