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

edited by Francesco Bottaccioli

# **PNEINEWS**

The new knowledge of health

## **Self produced medications...made on the run!**

Physical exercise induces brain and the immune system to produce those substances needed by the body. This is a way for us to trigger our internal pharmacy to work.

**PNEI – bimonthly review - nr. 2 - year VI – March- April 2012**

## **Editorial**

### **Page 3. The cost of emancipation**

*Marina Risi*

## **Interview with Susan Lutgendorf**

### **Page 4. Cells are sensitive to emotions. How psyches affects tumour biology.**

The famous American psychologist illustrates her studies on the identification of the molecular mechanisms of cancer progression which are mediated by behavioral and psychological factors.

*Paola Emilia Cicerone*

## **Dossier - Stress, environment and cancer**

### **Page 6. Cancer. Shifting from early detection to primary prevention.**

In 2009, the Italian Oncology Medical Association (AIOM) started the project "Environment and Tumour". The two years work of an interdisciplinary group presented in a text which describes the state of art of this crucial issue for public health.

*Ruggero Ridolfi, Patrizia Gentilini*

### **Page 9. Pollution is bad for heart health**

At the end of the Congress "Pollution and cardiovascular diseases" held last 7<sup>th</sup> February in Florence, the organizing medical associations have drafted an important document. We publish some excerpts of it.

*ISDE and other medical associations*

## **Close up. The internal pharmacy**

### **Pag.10. Molecules of health and positive mood**

Physical exercise promotes the production of neuroactive substances.

*Francesco Bottaccioli*

### **Page 12. Physical exercise has an antiinflammatory effect. This is the way it affects the immune system.**

It is known that people who exercise regularly fall ill less frequently than those who do not. Nevertheless the health professionals themselves largely ignore the scientific reasons and physiological mechanisms behind it.

*Alessandro Pejrano Romero*

### **Page 14. Physical exercise as prevention and therapy. A synthesis of the evidences.**

We publish an excerpt from an article published on Nature Review and revised by Francesco Bottaccioli. A great summary of clinical evidences about the benefits of physical exercise on health.

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*Michael Gleeson et al.*

### **Human network - Fats and health.**

**Page 15. A help to integrative medicine comes from the study of lipids within a membrane.**

Lipidomic profiling known as FAT PROFILE® is the market leader of a spin-off company born in December 2005 at the CNR (National Research Council) in Bologna. A very interesting diagnostic tool.

*Rosaria Ferreri*

**Page 18. Lipid oxidative stress in Alzheimer.**

We publish an excerpt presented at the International Congress in Orvieto. The full text will appear on the book "Stress and Life".

*Anna Giulia Bottaccioli*

### **Integrative medicine - The European Conference**

**Page 21. Meeting in Florence from all Europe to set a new frontier for integrative medicine.**

Italy hosts the fifth European Congress for Integrative Medicine. An important appointment strongly supported by Sipnei.

*Elio Rossi, Mariella di Stefano*

## Editorial

### **The cost of emancipation**

#### **Hormonal contraception and cancer risk**

Marina Risi

Gynecologist, Sipnei Vice president, PNEI teacher in medical post graduate formation at the University of Perugia and Siena.

Fifty years ago the contraceptive pill made its first appearance in US and Europe (40 years ago in Italy). Currently more than a 100 million women in the world (about 10% of the fertile female population) use it. The percentage of women using hormonal contraception varies from country to country. Pill is used by 70% of the women in US and Canada, by 58% in Portugal, by 41% in France, by 17% in Spain. In Italy 14.2% of the women use the pill. Italy is at the fourth from the last place in the European Union although there are some significant differences among its regions. For example Sardinia is at the first place (30.3%) while Campania is at the last place (7.2%). It is interesting to observe that our country is at the 18<sup>th</sup> place for fertility rate in the 27 countries of the European Union, therefore a low rate of hormonal contraception does not guarantee a higher demographic growth as proved by the case of Aosta Valley, a region where the use of pill averages 23% and the fertility rate is 1.57%.

The most concerning matter is the lack of formation and information on the mid and long term effects caused by the estroprogestins. A lot has been published about it in medical literature, but it is fragmented and provides often conflicting evidences. To fill this gap IARC (International Agency for Research on Cancer) published an extensive collection of scientific studies on a large scale. They gathered studies dating from 1999 ( at that time the dosage of estrogens had been reduced of 1/3 compared to the first pills and a second generation of progestins had appeared) to 2007.<sup>1</sup>

The working group who drafted this monograph came to the conclusion that hormonal contraception is carcinogenic for breast particularly for those women who have been diagnosed breast cancer before their forties and that had started assuming hormones at an early age (before they were 20) and to a higher degree for those women with BRCA1 and BRCA2 genes mutations. The adversing effect of estroprogestins was also confirmed on cervix cancer. On the other hand hormonal contraception has shown to have a protective effect on the endometrial, ovarian and colorectal cancers and not to have any influence on other kinds of malignant tumour including melanoma.

These alarming data require the clinical management to go through a strong and critical revision of hormonal contraception. This is not about demonizing or approving unconditionally pill consumption, there are already too many other factors that have nothing to do with science which are influencing doctors' recommendations and the choices of women. It is about making sure that the potential risk is limited to the utmost. For example a thorough personal and family medical history should be recorded. Also adequate diagnostic tests should be performed before prescribing an estroprogestin. A woman should be then

informed that she will have to constantly monitor some parameters and also not to underestimate new symptoms that appear during oral contraception. It is not unusual to see some latent autoimmune diseases (mostly SLE) breaking out during the administration of estrogenic compounds.

Since several years scientific literature is reporting non-hormonal effects due to hormonal contraception. Such effects include induced lack of folic acid, vitamin B12, zinc, vitamin E and other substances that are essential for immune modulation.

Recent molecular biology studies have shown that the Human Papilloma infection (HPV) which is strongly correlated with dysplasia and cervix cancer is positively connected with a folate deficiency<sup>2</sup>. Dosing and subsequently administering folic acid is an act of cancer prevention which is probably more crucial than proposing vaccination to all adolescent women.

To be able to manage their own fertility has been an extraordinary revolution, a means of emancipation for women from all the world, but we can improve to reduce the price to pay. It will be nice not to hear ever again some comments from experts of family planning saying: "...pills are safe, but certain women are dangerous".

1)IARC (2007) Combined estrogen-progestogen and combined estrogen-progestogen menopausal therapy. *IARC Monogr. Eval Carcinog Risks Hum*; 91:1 –528

2) Flately JE et al Folate status and aberrant DNA methylation are associated with HPV infection and cervical pathogenesis. *Cancer Epidemiol Biomarkers Prev* 009; 18 (10) 2782-9