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## CLIMATE AND HEALTH SAFETY:

### between meteoropathies, multiple chemical sensitivities and climatotherapy

V. I. Valenzi<sup>^</sup>, V. Berezovsky<sup>^</sup>, A. Pisani<sup>o</sup>, Marashi<sup>o</sup>, P. Avino<sup>\*^</sup>, M.V. Russo<sup>o\*</sup>, M. Sperini<sup>o^</sup>, M. Scalia<sup>o^</sup>

<sup>^</sup>CIRPS sez. Biometeo <http://www.cirps.it/en/biometeo-section/>

<sup>\*</sup>DiAAA, University of Molise, Campobasso, Italy <https://www.unimol.it/>

<sup>o</sup>Federiciana Università Popolare Department of Integrative Medicine and Biophysics Italy [www.cimb.me](http://www.cimb.me)

#### ABSTRACT

Atmospheric electricity, seasonal changes, solar/lunar activity, it has always been known that they influence the health of biological systems and of Man who, enigmatically, is hit on the joints, on the respiratory system, on the arteries and on other organs (seasonal gastritis for example). Studies carried out in the Molise Apennines (Pietracupa) on an elderly population showed that about 50% of the sample studied reported an exacerbation of joint pain in conditions of perturbed, temporalized weather (Fig. 1). Similar data are well known for dyspnea.

In the face of these classic meteoropathological evidences, the extension of the impact of the industrial revolution on air quality dramatically reduces the areas of the "white environment" - those with very low air pollution, Pietracupa like Briançon or the mountain areas of Kyrgyzstan - with clear epidemiological consequences, highlighted by the studies of prof. Razzouk Charpin and coll. in Briançon and of prof. Berezovsky and coll. on the Carpathians; the research of the latter group has also shown an infantile morbidity of the respiratory system 100 times higher in Kiev than in a mountain area of environmental white in Kyrgyzstan in central Asia (fig. 2).

The MCSs, emerging iceberg of urban pollution pathology, stimulate clear allergic processes but enigmatic toxicological or of intolerance processes to multiple components of the atmospheric mix in which we are immersed in the home and outside the home, with pathological effects affecting various systems, from the immune one to the allergies or to inflammation. A representation, far from exhaustive, of the pathological states that ensue in the infant and adult population can be seen from the graphs shown.

Climatotherapy, a pillar of medical therapy of the twentieth century, returns to the present as a tool to manage new health emergencies in urban and industrial areas connected to the increase in allergic and respiratory diseases. Areas of high environmental quality, such as marine and mountain areas of ancient climatotherapeutic tradition, can once again become an essential support to counter the health emergency in large urban areas, where children and elderly people who are predisposed or chronic suffer without great possibilities of a therapeutic contrast, having developed a hypersensitivity or an intolerance leading to allergies to multiple components of the mix we breathe.

It seems appropriate to launch an international plan of research to clarify the chemical-physical factors of the atmosphere concerned and evaluate, in particular, the preventive and therapeutic impact of favorable marine and mountain climates which can be used in a systematic way (following, e.g., the "Briançon model") in the management of urban pollution diseases that are undermining health safety in the large cities of all European continent. The latest results and forthcoming research projects will be presented and discussed, for which attention is required.

#### ***Essential bibliography***

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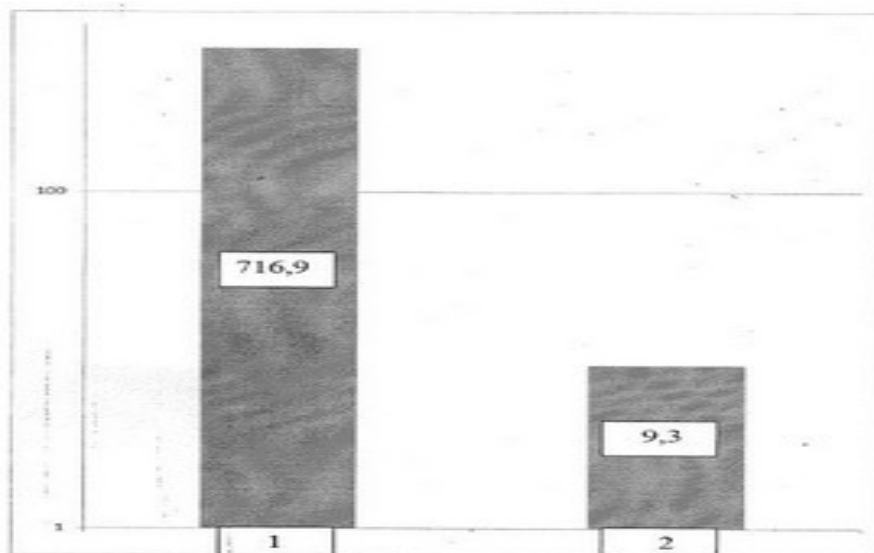
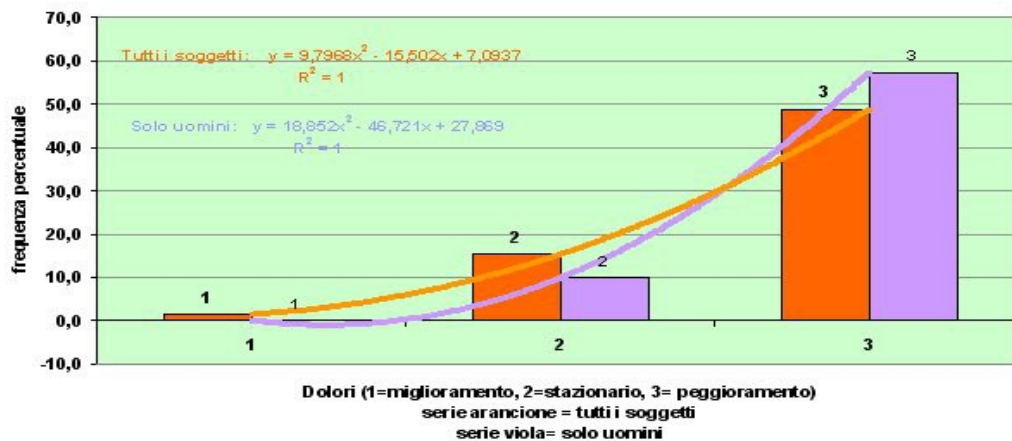
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## Annex

### Limiti di riferimento (D.Lgs.155/2010)

Inquinante	Limite	Periodo di mediazione	Limite	Superamenti in un anno
<b>PM10</b> ( $\mu\text{g}/\text{m}^3$ )	Valore limite sulle 24 ore per la protezione della salute umana	Media giornaliera	50 $\mu\text{g}/\text{m}^3$	massimo 35
	Valore limite annuale per la protezione della salute umana	anno civile	40 $\mu\text{g}/\text{m}^3$	
<b>PM2.5</b> ( $\mu\text{g}/\text{m}^3$ )	Valore Limite annuale per la protezione della salute umana	anno civile	25 $\mu\text{g}/\text{m}^3$	
<b>NO<sub>2</sub></b> ( $\mu\text{g}/\text{m}^3$ )	Valore limite orario per la protezione della salute umana	Media massima oraria	200 $\mu\text{g}/\text{m}^3$	massimo 18
	Valore limite annuale per la protezione della salute umana	anno civile	40 $\mu\text{g}/\text{m}^3$	
<b>O<sub>3</sub></b> ( $\mu\text{g}/\text{m}^3$ )	Soglia d'informazione	Media massima oraria	180 $\mu\text{g}/\text{m}^3$	
	Soglia d'allarme	Media massima oraria	240 $\mu\text{g}/\text{m}^3$	
	Valore obiettivo	Media massima giornaliera calcolata su 8 ore	120 $\mu\text{g}/\text{m}^3$	<= 25 volte/anno come media su 3 anni
	Valore obiettivo per la protezione della vegetazione	AOT40, calcolato sulla base dei valori di 1 ora da maggio a luglio	18000 $\mu\text{g}/\text{m}^3$ come media su 5 anni	
<b>CO</b> ( $\text{mg}/\text{m}^3$ )	Valore limite orario per la protezione della salute umana	Media massima giornaliera calcolata su 8 ore	10 $\text{mg}/\text{m}^3$	
<b>SO<sub>2</sub></b> ( $\mu\text{g}/\text{m}^3$ )	Valore limite giornaliero	Media giornaliera	125 $\mu\text{g}/\text{m}^3$	massimo 3
	Valore limite su 1 ora per la protezione della salute umana	Media massima oraria	350 $\mu\text{g}/\text{m}^3$	massimo 24
<b>Benzene</b> ( $\mu\text{g}/\text{m}^3$ )	Valore limite su base annua	anno civile	5 $\mu\text{g}/\text{m}^3$	
<b>Benzo(a)pirene</b> ( $\text{ng}/\text{m}^3$ )	Concentrazione presente nella frazione PM10 del materiale particolato, calcolato come media su un anno civile	anno civile	1 $\text{ng}/\text{m}^3$	
<b>Metalli pesanti</b> ( $\text{ng}/\text{m}^3$ )	Arsenico	anno civile	6 $\text{ng}/\text{m}^3$	
	Cadmio	anno civile	5 $\text{ng}/\text{m}^3$	
	Nichel	anno civile	20 $\text{ng}/\text{m}^3$	
	Piombo	anno civile	0,5 $\mu\text{g}/\text{m}^3$	

# DOLORE E TEMPO PERTURBATO



Различие в заболеваемости бронхиальной астмой у жителей Киргизии, проживающих в низменных (1) или высокогорных (2) районах страны

Жители высокогорья болеют бронхиальной астмой в 77 раз реже, нежели жители низменных районов Киргизии.