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First Scientific Symposium Health and Climate Change

Istituto Superiore di Sanità
Rome, December 3-5, 2018

ABSTRACT BOOK

Edited by
W. Ricciardi, S. Marcheggiani, C. Puccinelli,
M. Carere, T. Sofia, F. Giuliano, E. Dogliotti and L. Mancini



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Edited by

Walter Ricciardi (a), Stefania Marcheggiani (c),
Camilla Puccinelli (c), Mario Carere (c), Tonino Sofia (b),
Fabiola Giuliano (b), Eugenia Dogliotti (c) and Laura Mancini(c)

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Climate changes affect social and environmental health determinants such as clean air, ecosystems health, safe drinking water and sufficient food. Globally, people at greatest risk of adverse health effects associated with climate change include the children, the elderly and vulnerable groups. Socio-economically disadvantaged groups and areas where infrastructure and/or social services are not efficient will fail in adaptation to climate change and related health hazards. Temperature-related death and illness, extreme events, polluted or stressed ecosystems represent relevant issues raising concern for both health and economic consequences. The aim of the Symposium is to promote an intersectoral and multidisciplinary approach to estimate, and to prevent, climate change-related events as well as to prepare the authorities to put in place measures to reduce adverse health effects.

Keywords: Climate changes, Human health, Adaptation, Sustainability, Scenarios, Advanced technologies, Innovative tools, Resilience, Management policy, Children's health, Urban cities, Ecosystems, Green areas, Extreme events

Istituto Superiore di Sanità

Primo Simposium Scientifico: Salute e Cambiamenti Climatici. Istituto Superiore di Sanità. Roma, 3-5 dicembre 2018. Riassunti.

A cura di Walter Ricciardi, Stefania Marcheggiani, Camilla Puccinelli, Mario Carere, Tonino Sofia, Fabiola Giuliano, Eugenia Dogliotti e Laura Mancini
2018, xxix, 268 p. ISTISAN Congressi 18/C5 (in inglese)

I cambiamenti climatici influenzano i determinanti della salute come la qualità dell'aria, la salute degli ecosistemi, la sicurezza idropotabile e la disponibilità di cibo. A livello globale, le persone a maggiore rischio di effetti avversi sulla salute associati ad i cambiamenti climatici includono i bambini, gli anziani ed i gruppi vulnerabili. Aree dove i servizi sociali e le infrastrutture sono poco efficienti e le comunità che hanno svantaggi economici non posseggono misure di adattamento adeguate per fronteggiare i cambiamenti climatici ed i loro effetti. Patologie e decessi causati dall'aumento della temperatura, eventi estremi, ecosistemi alterati e/o inquinati rappresentano dei problemi rilevanti per le conseguenze negative sanitarie ed economiche. L'obiettivo del simposio è quello di promuovere un approccio multidisciplinare ed intersettoriale per stimare e prevenire gli eventi connessi ai cambiamenti climatici e di preparare le autorità politiche a predisporre delle misure per ridurre gli effetti avversi sulla salute.

Parole chiave: Cambiamenti climatici, Salute umana, Adattamento, Sostenibilità, Tecnologie avanzate, Metodologie innovative, Resilienza, Gestione, Salute dei bambini, Città, Ecosistemi, Aree verdi, Eventi estremi

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CLIMATE CHANGE AND FOOD SAFETY: INVESTIGATION ON TOXIC FISH SPECIES IN THE TYRRHENIAN SEA

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Global warming is transforming the Mediterranean Sea as a result of the increase of the sea water temperature. Exotic tropical species, originating from the Indo-Pacific area and entering via the Suez Canal (“Lessepsian” migration) are spreading (tropicalization). Some of these “alien” species, such as those belonging to the family Tetraodontidae, or “pufferfish”, are toxic, as they are able to accumulate a potentially lethal neurotoxin. Several pufferfish species belonging to the Tetraodontidae family are currently present in the Mediterranean Sea. Since 2013 *Lagocephalus sceleratus* is increasingly reported also along Italian coasts, where other two species of less concern, *Lagocephalus lagocephalus* and *Spherooides pachygaster*, have also occurred since a long time. The project “Climate change and food safety: molecular, microbiological and toxicological analysis on toxic fish species in the Tyrrhenian Sea” led by the Istituto Zooprofilattico Sperimentale del Lazio e della Toscana in partnership with FishLab, Department of Veterinary Sciences, University of Pisa and the Veterinary Services and Animal Health, Ministry of Agriculture & Rural Development, Israel, funded by the Ministry of Health, is aimed at monitoring the occurrence of toxic fish species along the Mediterranean Sea coast and characterizing them under a molecular profile to obtain a more detailed picture on the presence of these toxic species. The first part of the project was dedicated to dissemination activities using dedicated informational brochures and posters, a report form, a Facebook page and a specific section on the official site, in addition to newspaper articles, TV interviews and meetings with fishermen, divers and control authorities. All these activities were aimed at creating a network for the collection of reports and samples, to update the presence and toxicity of these species, allowing a better assessment of the associated risk. In a second phase, a retrospective study on the occurrence in the Mediterranean, and in particular along Italian coasts, of the three mentioned pufferfish species, was conducted. Overall, at least 111,079 individuals of the three species were found in the Mediterranean Sea, including 110,237 specimens of *L. sceleratus* (since 2003), 126 of *L. lagocephalus* (1878-2017) and 716 of *S. pachygaster* (1979-2017). The evident differences confirm the invasive character of *L. sceleratus*, the species of main public health concern. Although its current distribution in Italy is limited to southern regions, the picture could change rapidly thus its presence should be strictly monitored. Institutional measures should be implemented to inform people about this emerging public health hazard.