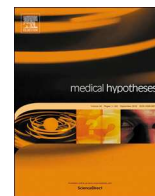




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## Letter to Editors

## COVID-19, quarantine, and atopic dermatitis



## ARTICLE INFO

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Atopic dermatitis (AD) is a chronic inflammatory skin disease affecting up to 20% of children and up to 10% of adults [1]. Western lifestyle, pollution, stress, and atmospheric elements can affect the prevalence and severity of the disease [1,2]. Its pathogenesis involves environmental factors that interact with genetic skin barrier defects and immune Th2 overexpression [1]. The Coronavirus disease-2019 (COVID-19) pandemic has led to deep changes in life conditions of millions of people, with significant consequences on general health and on coexisting chronic diseases, such as AD. In fact, repeated washing and sanitizing of the hands leads to further disruption of skin barrier and subsequent hand eczema [3]. Adverse psychological effects induced by the COVID-19 quarantine have been associated with increase of itch in some chronic skin disease, also due to neuroendocrine modulation of skin inflammation [4]. Lockdown can lead to a diet rich in saturated fats and refined carbohydrates, and reduction of physical activity, increasing pathogenic Th2 phenotype [1]. Obviously, quarantine is associated with less exposure to sunlight that, together with high temperature and low humidity, may exert an immunosuppressive effect on skin inflammation of AD [2]. Moreover, AD has been associated with pollution that may induce both epigenetic changes in utero and worsening of postnatal AD [1]. The requirement to stay home leads to greater exposure to indoor pollutants, such as tobacco smoke or volatile organic compounds [1]. On the other hand, a paradoxical positive consequence of lockdown is the significant reduction of outdoor air pollution subsequent to the reduction of urban traffic; AD has been associated with traffic-related air pollution, probably for oxidative damage of skin barrier [1]. Similarly, as mentioned, the reduction of physical activity on the one hand is pro-inflammatory, while on the other the reduction of profuse sweating induces a reduction in the flares of dermatitis in affected subjects [2]. Furthermore, during quarantine, routine dermatologic visits are difficult to access; indeed, tele-dermatology programs increase during lockdown [4], and some patients stop taking immunosuppressive drugs on their own initiative for

the fear of contracting COVID-19. All these considerations suggest the hypothesis that COVID-19 pandemic may be associated with changes in lifestyle of AD patients that can significantly influence their clinical disease activity. Obviously, epidemiological studies are needed to confirm this hypothesis, which, if confirmed, could also lead to more information on the pathogenesis of AD.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Cataldo Patruno<sup>a</sup>, Steven Paul Nisticò<sup>a</sup>, Gabriella Fabbrocini<sup>b</sup>,  
 Maddalena Napolitano<sup>c,\*</sup>

<sup>a</sup> Department of Health Sciences, University Magna Graecia of Catanzaro, Catanzaro, Italy

<sup>b</sup> Section of Dermatology, Department of Clinical Medicine and Surgery, University of Naples Federico II, Naples, Italy

<sup>c</sup> Department of Health Sciences Vincenzo Tiberio, University of Molise, Campobasso, Italy

E-mail address: [maddy.napolitano@gmail.com](mailto:maddy.napolitano@gmail.com) (M. Napolitano).

\* Corresponding author at: University of Molise, Campobasso, Italy.