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Letter to Editors

May COVID-19 outbreaks lead to a worsening of skin chronic inflammatory conditions?



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ABSTRACT

The emergence of the novel beta Coronavirus has raised serious concerns due to the virus rapid dissemination worldwide. Many areas throughout the world are now experiencing the COVID 19 outbreaks with government and policy authorities taking many aggressive isolation or restriction measures, drastically reducing also patient's visits and limiting only to the most urgent ones such as oncological visits or emergencies.

Several studies have demonstrated a relationship between increased weight, obesity, diabetes, hypertension and inflammatory skin diseases. Furthermore, weight loss interventions have been shown to improve psoriasis, as well as hidradenitis suppurativa, and increase responsiveness to treatment of this conditions.

We suppose that due to aggressive isolation or restriction measures, in the next future dermatologist will face with a common worsening of chronic skin inflammatory conditions due to reduced physical activities, increased intake of calories with the derived increase body weight and always more frequent treatment discontinuation.

It is time to start potential preventive strategies which could limit the expected negative impact of COVID-19 related quarantine on skin diseases.

With the spread of Coronavirus disease 2019 (COVID 19) infection, Italy, as all the international communities, had to face one of the most severe infectious cluster in the world [1]. Since in Italy the first epidemic outbreak of the novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was detected on February 21 in Lombardy region with 16 cases of COVID 19 positive patients [2], and especially after The World Health Organization (WHO) declared the coronavirus outbreak a pandemic on March 11, 2020 [3], we started to apply a series of measures to limit the risk of infection for both patients and physicians that have radically changed the clinical management of dermatological patients [4]. Thus, the clinical management of dermatological patients is changed during this pandemic era, with new clinical practice implementations applied in order to reduce the risk of COVID-19 spread between both patients and physicians but in the same time ensuring a continuity of cares for patients. [5] Moreover, there seems to be consensus, that patients with a need for systemic drug therapy and no clinical symptoms of COVID-19 should better continue their treatment instead of risking severe flares that could be increased during this quarantine-period. [5]. In Western countries, overweight and obesity prevalence has risen dramatically in recent decades. It is well known that overweight and obesity are associated with a wide range of chronic diseases, especially skin diseases such as psoriasis and hidradenitis suppurativa (HS) [6,7]. Indeed, several studies have demonstrated a relationship between increased weight, obesity, diabetes, hypertension and inflammatory skin diseases. Furthermore, weight loss interventions have been shown to improve psoriasis, as well as HS, and increase responsiveness to treatment [6,8]. Overweight and obesity could promote skin inflammation through the increased release of pro-inflammatory cytokines such as interleukin-6 and tumour necrosis factor- α by hypertrophied adipocytes [7,8]. At the same time, psoriasis and HS can also lead to a reduced participation in social, recreational and physical activity due to the high impact of visible skin lesions on quality of life, thus favouring weight gain [7]. Hence, chronic skin

inflammatory diseases and metabolic factors (overweight, obesity, metabolic syndrome) are strictly linked so that a multidisciplinary is mandatory for their treatment with prevention strategies being a key public health issue.

The emergence of the novel SARS-CoV-2, has raised serious concerns due to the virus rapid dissemination worldwide [9]. Many areas throughout the world are now experiencing COVID-19 outbreaks with government and policy authorities taking aggressive isolation or restriction measures (limit traveler mobility, quarantines and border restrictions, etc). In particular, Italy is currently one of the most COVID-19 involved country in the world with Italian government imposing quarantine for all citizens, limiting the possibility to perform physical activity (gyms, swimming pools, and other sports related structures will be close up to 3 April 2020). Indubitably, limiting physical activity with most people spending the whole day at home is likely to lead to an increase in body weight as well as in calories intake. Indeed, isolation at home may share some analogue restriction aspects with another forced condition of restriction such as the prison. A recent study investigated prisoners' weight and waist circumference, showing that the obesity prevalence rate increased 50% from baseline (before imprisonment) (16%) to the 6-month follow-up (24%) [10].

Hence, we suppose that the current situation of forced reduced physical activity, higher calories intake linked to home constriction as well as to negative impact of quarantine on mood and psychological aspects may act as a cofactor in worsening natural course of chronic inflammatory skin diseases with a higher impact on psoriasis and HS for all the reasons described above. We believe that this is particularly true for these diseases since moderate-to-severe forms are commonly treated with biologics. In a significant percentage of the cases the treatment will be interrupted for different reasons such as fear of SARS-CoV-2 risk infections consequent to their immune-modulating action, impossibility to seek dermatologists for the previously scheduled visits, delayed biologic scheme administration which could also favour the genesis of

Table 1

Interventions and recommendations performed by Dermatology Clinic of University Hospital Federico II of Naples, Italy.

Intervention/action	Expected Outcome
Telephonic triage to HS and psoriasis patients under biologic treatment	Avoid unnecessary treatment discontinuation
Educational and motivational reminders on the importance of physical activity and diet in HS and psoriasis natural course (by text messages, videos and/or e-mails)	Increase indoor physical activity and avoid excessive calories intake
Newsletters on COVID-19 and eventual implication on skin diseases	Avoid incorrect behavior which could favour infection spreading as well as worsening skin diseases
Daily available e-mail address to every chronic skin inflammatory skin diseases (HS, psoriasis, etc)	Continue patient-physician relationship during quarantine
Question & Answer section for patients on Dermatology Clinic official website	Direct contact to avoid that patients feel abandoned and to answer to all their doubts with updated data
An online-contact available for video-consultation through webcam for complex cases	Evaluation of ongoing clinical manifestations in case of worsening or flare up

anti-drug antibodies limiting biologics efficacy.

Thus, in the next future dermatologist will face with a common worsening of chronic skin inflammatory conditions due to reduced physical activities, increased body weight and treatment discontinuation. Therefore, it is time to start potential preventive strategies which could limit the expected negative impact of COVID-19 related quarantine on skin diseases. In this context, interventions and recommendations which are being performed by our Dermatology Clinic are shown in Table 1.

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Declaration of Competing Interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.mehy.2020.109853>.

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