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European Task Force on Contact Dermatitis statement on coronavirus disease-19 (COVID-19) outbreak and the risk of adverse cutaneous reactions

Editor

Among the basic protective measures against COVID-19, the need to wash hands frequently and in a prolonged way using soap and to regularly use alcohol-based hand sanitizers is well established for the whole population. Healthcare workers in general, and particularly those involved in the direct care of COVID-19-infected patients, have to wear personal protective equipment (PPE) daily for many hours and also accomplish general preventive measurements outside their work. Cutaneous adverse reactions can develop that need to be prevented, identified and therapeutically managed. According to the data reported by Lin *et al.*,¹ based on the experience from healthcare workers in Wuhan, adverse skin reactions were reported in 74% of responders ($n = 376$) to a general survey. The most commonly reported types of eruptions were skin dryness or desquamation (68.6%), papules or erythema (60.4%) and maceration (52.9%). Hands, cheeks and nasal bridge were the top three most commonly affected areas. Adverse skin reactions showed in the univariate analysis a significant association with sex, epidemic level, working place, duration of full-body PPE use, getting soaking wet after work and frequency of handwashing. The multivariate analysis showed an increased number of reactions in females, who work at the hospitals, in inpatient wards and use full-body PPE for over 6 h per day. Similar results were reported from Chengdu, with 198 of 404 (49.0%) respondents to an online survey from the healthcare sector reporting mask-related

skin reactions, mostly, in 169, in the face following prolonged use of N95 and medical-grade masks. Of note, worsening of pre-existing facial skin problems such as acne or rosacea was frequently reported.² This scenario is certainly similar to what the health care personnel is suffering nowadays in Europe.³ The identification of these cutaneous reactions, how to prevent and treat them is the objective of this document.

Prevention and management of irritant and allergic contact dermatitis in relation to hand hygiene, hand personal protective devices and the use of face protection masks in the COVID-19 environment.

During this pandemic, the mandatory protection regime against the viral infection aggravates the risk of developing severe hand dermatitis. Handwashing is essential to prevent COVID-19 infection and should be performed before and after each activity using soap without fragrance and preservatives without or a low sensitizing potential. There is also a recommendation to use hydro alcoholic solutions with glycerin. Alcohol-based hand solutions containing glycerin as moisturizer were studied intensively and are recommended to replace traditional soaps for handwashing within healthcare facilities.^{4,5} Although these solutions are better tolerated than standard detergents,^{5,6} the additional regular use of a fragrance-free⁷ emollient after these procedures greatly improves its acceptance, as already stated by Wollenberg *et al.*⁸ It is recommendable to protect the hands with a fragrance-free, lighter moisturizing lotion during the day after each handwashing procedure and a fragrance-free, lipid-rich moisturizer before bedtime. True allergic reactions to alcohol-based formulations are very rare.⁹ In most situations, a double set of gloves is used for prolonged periods and accurate hygiene of such gloves with hydro alcoholic solutions are required. In order to minimize sweating and skin irritation, cotton gloves should be worn underneath as liners.

Irritant or mechanical/friction dermatitis due to the use of masks and protective glasses is frequent among healthcare personnel. The use of dressings at pressure points on the face and ears to prevent rubbing against masks and goggles, such as hydrocolloid dressings, or the fixation of these dressings with dimethicone polymers or silicone gels could minimize the risk of adverse cutaneous reactions from mechanical friction. Promoting education on proper use of PPE and restriction on the duration of wearing could avoid some cutaneous adverse events. Correct hand hygiene, adequate glove use, as well as hand and facial care are recommended in the general population and particularly among healthcare personnel; the care of occupational physicians and occupational dermatologists can contribute to the prevention and treatment of more severe cases.

A. Balato,¹  F. Ayala,² M. Bruze,³ M.-N. Crepy,^{4,5} M. Gonçalo,⁶ J. Johansen,⁷ S.M. John,^{8,9,10} P. Pigatto,¹¹ A. Raimondo,¹² T. Rustemeyer,¹³  M.-L.A. Schuttelaar,¹⁴ C. Svedman,³ O. Aerts,¹⁵ W. Uter,¹⁶ M. Wilkinson,¹⁷ A. Gimenez-Arnau^{18,*}

¹Department of Advanced Biomedical Sciences, University of Naples Federico II, Naples, Italy, ²Professor Emeritus of Dermatology, University of Naples Federico II, Naples, Italy, ³Department of Occupational and Environmental Dermatology, Skåne University Hospital, Lund University, Malmö, Sweden, ⁴Department of Occupational and Environmental Diseases, Hotel-Dieu Hospital, Paris, France, ⁵Department of Dermatology, Cochin Hospital, Paris Descartes University, Paris, France, ⁶Clinic of Dermatology, University Hospital and Faculty of Medicine, University of Coimbra, Coimbra, Portugal, ⁷Department of Dermatology and Allergy, National Allergy Research Centre, Gentofte Hospital, University of Copenhagen, Hellerup, Denmark, ⁸Department of Dermatology, Environmental Medicine, Health Theory, University of Osnabrueck, Osnabrueck, Germany, ⁹Institute for Interdisciplinary Dermatological Prevention and Rehabilitation (iDerm) at the University of Osnabrueck, Osnabrueck, Germany, ¹⁰Rehabilitation (iDerm) at the University of Osnabrueck, Osnabrueck, Germany, ¹¹Department of Biomedical, Surgical and Dental Sciences, Clinical Dermatology, IRCCS Istituto Ortopedico Galeazzi, University of Milan, Milan, Italy, ¹²Department of Medicine, Surgery and Dentistry, 'Scuola Medica Salernitana', University of Salerno, Salerno, Italy, ¹³Department of Dermatology, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, ¹⁴Department of Dermatology, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands, ¹⁵University Hospital Antwerp (UZA) and University of Antwerp, Antwerp, Belgium, ¹⁶Department of Medical Informatics, Biometry and Epidemiology, Friedrich-Alexander University Erlangen/Nürnberg, Erlangen, Germany, ¹⁷Dermatology, Leeds Teaching Hospitals NHS Trust, Leeds, UK, ¹⁸Department of Dermatology, Hospital del Mar. IMIM, Universitat Autònoma Barcelona, Barcelona, Spain

*Correspondence: A.M. Giménez-Arnau. E-mail: anamariagimenezarnau@gmail.com

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Occupational skin conditions on the front line: a survey among 484 Chinese healthcare professionals caring for Covid-19 patients

Editor

The 2019-nCoV outbreak occurred in Wuhan, China in December 2019.¹ This unprecedented virus has caused global pandemic and over 2 300 000 cases worldwide in total number,² which has been bringing tremendous pressure and challenges to medical institutions and clinical staff around the world. 2019-nCoV can be transmitted by droplets primarily, while it has been reported that surface contact transmission exists as well.³ Keeping the integrity of skin barrier is a critical method to prevent the spread of 2019-nCoV, since skin is the first line of defence of human body.⁴ It is of prime importance to ensure and maintain the skin clean, sterilized and protected of clinical healthcare staff during the fight against the epidemic. Self-protection of the medical staff is essential, however, utilizing protective equipment such as goggles, masks and protective clothing continuously impairs skin integrity and the skin damage caused by the respective protective measures must be taken seriously.

To investigate the skin conditions of the front-line medical staff during the outbreak of 2019-nCoV, and identify any correlations between skin injury and the protection. We created an online questionnaire survey on skin problems in 484 clinical front-line medical staff in China during the period of 2019-nCoV and the results are as follows.

Among the 484 participants, half of them was from Wuhan and half was from the other 11 provinces of China. Female workers accounted for more than three quarters of the total (75.8%), the rest were males. The age distribution of the medical staff divided into four groups (Fig. 1a). The department of the medical staff was shown in Fig. 1b. The protection level of the participants was divided into three levels. 18.2%, 64.1% and 17.2% of participants were equipped with biosafety level 1, 2 or 3, respectively (Fig. 1c). More than half of the participants wore the protective suit between 4 and 6 h at a time and 9.1% of them kept the suit on for longer than 6 h (Fig. 1d). 64.2% of the staff