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Recommendations Regarding Skin Care for Perventing Hand Eczema on COVID-19

Ghazaleh Davarnia[1*], **Arash Khaki**

The coronaviruses are the family of single-stranded ribonucleic acid (RNA) viruses which are named because of their crown-shaped glycoprotein envelope structure.

The coronavirus 2019 (COVID-19) is the "novel" member of the family and its epidemic spread originated in Wuhan, China via animal-to-human transmission. Similar to the other members of the family, the novel coronavirus causes respiratory symptoms ranging from mild to severe (1). Thus, it is suggested that COVID-19 transmission is through the respiratory droplets that carry the virus. In special cases, it can also happen via aerosol transmission (2).

There is no evidence suggesting that the virus can pass through healthy skin. However, contaminated skin, especially hands that contact with mucous membranes (eyes, mouth, and nose) can lead to virus entry (3).

The human skin acts as the primary defensive mechanism of the body against the outside environment. Such a role is specifically entrusted to the stratum corneum lipids which preserve the epidermal water and prevent the entry of foreign objects into the inner layers of skin, and in this manner, they help the body's immune system to remain unstimulated.

Nonetheless, any factor that can cause damage to the structure of stratum corneum, paves the way for the entry of foreign objects into the derm and result in the stimulation of the immune system. Such stimulation can manifest through the occurrence of several different types of dermatitis (3).

Since the spread rate of the novel coronavirus is reported to have decreased significantly whenever the practice of hand hygiene is observed, the Centers for Disease Control and Prevention (CDC) advises the use of hand sanitizers (containing over 60% ethanol-based alcohol, or 70% isopropyl alcohol) and regular handwashing.

While the handwashing mechanically removes pathogens, the application of alcohol-based disinfectants will effectively inactivate the viruses (4).

Ghazaleh Davarnia was graduated from Tabriz University of Medical Sciences (TUOMS). She completed her speciality in Dermatology and Venereology on Faculty of Medicine, Sina hospital in TUOMS between 2014 and 2018. She is a member of Iranian Society of Dermatology. Her main research interests are dermatologic surgery,clinical dermatology and laser. She acts as a research director in Pharmaceutical International Company (PMC), focusing on skin health and beauty products. At present, she is a member of the editorial board in this journal.

Even so, the regular usage of hand sanitation products, especially soap and other detergents is a significant factor for causing contact dermatitis. Although the alcohol-based products are safer compared with detergents, at times they can cause dry or irritated skin as well. The solubility rate of stratum corneum lipids depends on the alcohol content percentage. It is suggested that ethanol causes less irritability compared to isopropanol. Some reports suggest the alcohol-based products may be more tolerable than other hygiene products.

The alcohol-based products can cause irritant contact dermatitis as well as rare cases of allergic contact dermatitis. Other possible reactions to alcohol can be urticarial reactions. The following are three measures against the aforementioned conditions:

1. Reducing skin contact with the items mentioned above by way of substituting them with gloves. In the case of coronavirus, latex, and nitrile gloves provide better protection.Nitrile gloves are preferred in those who have hand dermatitis.
2. Using skin moisturizer products regularly after handwashing and using sanitizers.
3. Using products that cause the least effects of irritability or allergic reaction.
4. After washing, dry hands by gently patting,not rubbing (5,6).

In cases that require the washing of the hand using soap-free products with pH 5-5.5 instead of soap. It is suggested

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[1]Department of Dermatology, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran. [2] Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.
***Corresponding Author:** Ghazaleh Davarnia, Email: editorial@cjmb.org

that ethanol-based sanitizers cause less irritability when compared against isopropyl alcohol

Another measure that has been proposed to prevent the skin damage caused by soaps and detergents, is using the alcohol-based products that contain humectants.

Items that must be avoided:

- Washing the hands with soap before or after applying alcohol-based products.
- Wearing gloves while the hands are still moist.
- Applying alcohol-based products while the hands are still moist (6).

Conflict of Interests

The authors declare that they have no conflicts of interest.

Ethical Issues

Not applicable.

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