



Maintaining Healthy Skin During COVID-19 Pandemic

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ABSTRACT

The Covid-19 pandemic has brought several changes to people's routine habits. Educating the public about the importance of washing and disinfecting hands as often as possible and the use of personal protective equipment such as masks, goggles or face shields to avoid disease transmission and sunbathing habits to get the benefits of sunlight for health and the immune system has an impact on behavior changes on the community. These new habits can bring a negative effect to the skin. The use of disinfectants and personal protective equipment can cause allergic dermatitis, contact dermatitis, skin maceration, secondary fungal infection and acne. Sunbathing can cause changes in skin pigmentation, the appearance of black spots, the skin looks dull and rough and accelerates the appearance of premature wrinkles on the skin. Proper skin care routine during this pandemic situation is essential to maintain skin healthy and avoid skin problems due to the use of disinfectants or PPE. The use of emollients, moisturizers and barrier creams can prevent skin problems to happen. Skin moisturizers can be used regularly after hand washing and before using personal protective equipment. When it comes to maintaining healthy skin during pandemic, skin care routine consists of facial cleansers, toners, moisturizers, serums, morning creams and night creams are also recommended to keep the skin healthy and slow the appearance of premature aging signs on the skin. This activity aims to provide a better understanding to people especially worker how to prevent skin problems and how to maintain healthy skin during pandemic.

Key words: Covid-19, Skin problems during pandemic, skin care routine

INTRODUCTION

An outbreak of pneumonia caused by SARS-Cov-2 was first reported in Wuhan City, Hubei Province, China in December 2019. Within a few weeks, the infection had spread throughout China and then around the world (Zu et al., 2020). The World Health Organization (WHO) declared *Corona Virus Disease-19* (COVID-19) a pandemic by taking into account the high speed of disease spread and the severity of the disease (World Health Organization, n.d.). The global pandemic caused by a new type of virus that mainly attacks the respiratory tract is classified as a highly contagious virus and is characterized by clinical symptoms such as fever, shortness of breath and cough (Pradhan et al., 2020). The rapid transmission of the virus from person to person has made people around the world more vigilant and implementing various preventive measures so as not to catch the disease.



Some efforts to prevent disease transmission include disinfection of surfaces, maintaining hand hygiene by washing hands with soap or liquids containing at least 60% alcohol, using personal protective equipment such as masks, eye and face protection, keeping a minimum distance from other people of 1 meter, applying cough etiquette and monitor body health every day (Center for Disease Control, nd; Pradhan et al., 2020). People are also advised to consume healthy foods, health supplements such as vitamin C, vitamin D, vitamin E, antioxidants to maintain health. In addition, sunbathing in the morning is also recommended to increase the body's immunity against infection.

New habits that have been widely implemented by the community in everyday life for the prevention of Covid-19 have a good impact on public health, especially in the application of clean and healthy living. However, these new habits can also cause skin problems. Some of them are: the use of personal protective equipment such as masks can cause complaints such as urticaria, allergic dermatitis and acne, the application of *hand hygiene* behavior that is carried out very often can cause irritation of the skin of the hands (Darlenski & Tsankov, 2020). In addition, 2-20% of Covid-19 patients also experience skin problems such as redness (*rash*). The skin lesions reported include urticaria, vesicular, pustular, eczema, acropapula, purpura, childblain-like and others. The use of emollients, creams for skin barrier and moisturizers is one of the important things to prevent skin problems during a pandemic (Ring, 2020).

Reduced visits to hospitals or health clinics due to increased public anxiety to visit health care facilities during a pandemic also cause skin problems to be of little concern (Ring et al., 2020). People with a history of atopy and allergic dermatitis are more likely to develop skin problems due to new habits during the pandemic, so visits to skin health facilities should not be ruled out if clinical symptoms are present. Therefore, knowledge about skin problems and how to maintain healthy skin during a pandemic is important to be circulated to the public.



LITERATURE REVIEW

Pandemic Skin Problems

Skin problems that arise during a pandemic can occur due to several causes, including the use of disinfectants, the use of personal protective equipment, as a result of new habits during the pandemic such as sunbathing, skin problems during the pandemic due to secondary infections.

Skin Problems Due to Using Disinfectants

Disinfectants that are widely used, especially by health workers, include 75% ethanol and iodophores. Side effects that are frequently reported after the use of this disinfectant are irritant contact dermatitis and allergic contact dermatitis. (Long et al., 2020).

Allergic contact dermatitis

Allergic contact dermatitis generally appears on areas in direct contact with disinfectants. The skin lesion may be eczematous erythema with defined borders on the area exposed to the disinfectant, accompanied by swelling, edema and a sharp pain. With the use of a disinfectant spray, the area of the lesion can be wider. In severe cases, the lesions can develop into papules, bullae and erosions followed by secondary infection (Long et al., 2020).

Irritant Contact Dermatitis

Repeated use of hand soap and disinfectants can damage the lipid layer on the surface of the skin and disrupt the skin's natural barrier, causing irritant contact dermatitis. Clinical manifestations can include erythema, papules, rash filled with fluid or cracked skin accompanied by itching (Long et al., 2020).

Skin Problems due to Use of Personal Protective Equipment



Skin lesions due to the use of personal protective equipment such as gloves, masks, goggles, protective clothing, boots, etc. can occur due to mechanical stress, repeated friction between the protective equipment and the skin. The forms of lesions that often appear are peeling of the skin, irritation, and skin maceration of the hands and feet (Long et al., 2020).

The use of an N95 respirator mask which is made of polypropylene material and must be attached tightly to the face to be effective is reported to cause various skin problems. (Gheisari et al., 2020). Research conducted by Foo et al. (2006) stated that 35.5% of medical staff who use N95 masks experience acne, dermatitis and pigmentation on the nose, cheeks and chin. Dermatitis that often presents with itchy skin lesions is a type of irritant dermatitis whereas allergic dermatitis is caused by rubber straps, metal clips or adhesive materials from masks.

The use of protective glasses and face shields creates problems with dehydration and moisture in closed skin areas. In addition, acne, dermatitis, urticaria, xerosis have also been reported due to wearing protective glasses for more than 6 hours, especially in the compressed nasal area. Wearing protective clothing (coveralls) can cause heat stress and dehydration. Complaints of itching and redness of the wrists or feet have been reported as a result of repeated use of protective clothing over a period of more than 6 hours. (Foo et al., 2006; Gheisari et al., 2020).

Superficial secondary infection due to fungi

The use of personal protective equipment for a long time can cause a moist and warm environment on the skin, causing superficial fungal infections such as tinea corporis, tinea manum and tinea pedis. Tinea corporis presents as circular or semi-circular erythema on the trunk, inguinal region and buttocks. Tinea manuum and tinea pedis appear as maceration followed by erosion of the skin between the fingers, vesicles followed by peeling of the skin, diffuse erythema and peeling.



Acne

Stress and high workload accompanied by lack of sleep, especially for medical personnel during the Covid-19 pandemic, can cause acne breakouts and increase the severity of pre-existing acne. Long pressure on the skin due to the use of masks can cause the closure of the pilosebaceous ducts which in turn cause acne (Long et al., 2020).

Caring for Skin Health during the Pandemic

Overcoming skin problems that arise related to the pandemic

Some things that can be done to treat allergic dermatitis due to the use of disinfectants include: stop using disinfectants that are suspected to be the cause of irritation and replace them with non-allergic products. Minor irritation will usually disappear within 3-5 days after the product is stopped, lesions accompanied by itching are required to give second generation of H1 antihistamines, for severe lesions can be given a moderate potency topical corticosteroid such as mometasone furoate or halometasone, for lesions accompanied by bullae Secondary erosion and exudate can be given short-term systemic corticosteroids (0.5-1 mg / kg / day), for lesions with secondary infection can be given systemic and topical antibiotics (Long et al., 2020)

To treat irritant contact dermatitis, it is very important to use skin care creams that contain emollients and should be applied as often as possible. If other clinical complaints arise, the treatment is almost the same as allergic dermatitis. (Long et al., 2020). Some things that can be done to avoid irritation to the skin due to the use of personal protective equipment include: (i) use gloves that are the right size, not too tight, sprinkle baby powder on the skin of hands and feet that have been cleaned using a disinfectant and completely dried, before use gloves or rubber boots to reduce friction on the skin and excessive sweating, (ii) change gloves and rubber boots as often as possible, (iii) after removing personal protective equipment, clean the skin (by washing hands or feet) then apply a cream emollient (iv) for existing skin maceration, use an astringent such as zinc oxide cream topically (Gheisari et al., 2020; Long et al., 2020).



To avoid skin complaints due to the use of masks, protective glasses, or *face shields*, the following things can be done: try to work in an environment with a fairly cool temperature, apply a moisturizer such as petroleum before using a mask or face shield, do a *patch test* if necessary, clean your face after working hours, don't use irritating face wash, don't use a mask or face shield that is too tight (Gheisari et al., 2020).

Secondary infections due to fungi can be prevented by keeping the skin dry, to treat fungal infections topical anti-fungal such as bifonazole and ketoconazole creams can be given. If the skin lesions are very extensive and resistant to topical treatment, then systemic antifungals such as itraconazole or terbinafine can be considered (Long et al., 2020).

To avoid the appearance of acne complaints due to the use of PPE, the following things can be done: (i) wash your face twice a day with warm water, if possible do *double cleansing* (2 stages of facial cleaning), (ii) choose the right face wash soap, don't use soap that is very alkaline, (iii) choose mild cosmetics or avoid using cosmetics first, (iv) do not hesitate to consult a doctor to treat acne, for minor complaints can be given topical antibiotics and retinoids, (v) for severe complaints, given systemic drugs such as oral antibiotics and isotretinoin (Long et al., 2020).

Keep using the right cream to care for skin health during a pandemic

Using the right facial care cream according to skin type is very important to maintain healthy skin and prevent signs of aging on the skin. Pandemic situations should not reduce the routine of using this daily care cream. Daily care for the skin generally consists of several steps, such as the use of special facial soaps, toners, serums, moisturizers, sunblocks, night creams and others.

Skin care products have long been used in the history of human life. The complexity of these products has grown in the last century along with the development of technology. The use of routine care creams has become popular in modern countries, starting from the trend of using 3 stages of treatment cream by Clinique (facial cleanser / exfoliation / moisturizer) in 1967 and has continued to



develop until now, for example the trend from South Korea which popularized the use of 10 stages of treatment. facial (*10 step skin care routines*) (Messaraa et al., 2020).

Based on research conducted by Messaraa et al. (2020) which compared the use of 2 stages of treatment creams (facial cleansers and morning creams) called *simple routines* (SR) and the use of 5 stages of care creams (facial cleansers, toners, eye serums, creams). morning and night cream) or what is called the *Advanced Routine* (AR) for 4 weeks, obtained significantly different results in terms of skin hydration level, skin texture, pores, skin tone brightness, depth of wrinkles at the corners of the eyes and nasolabial, and pigment heterogeneity. melanin. The use of AR is proven to increase skin hydration, improve skin texture to be smoother, shrink pores, brighten skin tone and increase melanin heterogeneity. Thus, the use of several stages of facial care is recommended to get a healthier appearance of skin and prevent skin aging (Messaraa et al., 2020).

Some habits that are often edited to the public during the pandemic also have an impact on skin health. In addition to the habit of washing hands and using personal protective equipment previously described, the habit of sunbathing in the morning to get vitamin D from the sun also has an impact on the skin. changes in skin pigmentation such as darker skin, the appearance of black spots, the skin texture becomes coarser, the skin looks dull and accelerates the appearance of wrinkles on the skin (Dupont et al., 2013). The use of sunblocks with spf 30 and above and with a broad spectrum on facial skin is necessary to avoid negative effects on the skin. For this reason, it is advisable to expose other body areas besides the face while sunbathing while the skin on the face is still applied with sunblock.

METHOD

This community service activity is carried out in the form of an online educational seminar through the *Zoom* conference application on Saturday, November 21, 2020. Participants of this online education seminar are education personnel in the Faculty of Medicine, Sriwijaya University totaling 50 people. The



material is presented by speakers with competencies and scientific background in *Anti-aging Medicine*. The material presented is related to providing education about caring for skin and avoiding skin problems during the pandemic.

CONCLUSION

Skin health is an important thing to pay attention to during the Covid-19 pandemic because in addition to affecting appearance, skin disorders or diseases can interfere with daily activities. The skin diseases most frequently reported during a pandemic are allergic contact dermatitis, irritant contact dermatitis, fungal diseases, and others. Maintaining skin moisture by using emollients, or moisturizers, is one solution to skin problems due to the use of disinfectants, avoiding irritating disinfectants, using sunblocks regularly and appropriately before doing activities, still using facial care creams that match the type of facial skin so that facial skin does not look dull, does not appear problems such as blackheads or pimples and prevents the appearance of aging on the skin. Education on how to avoid skin problems during a pandemic is expected to increase public awareness of the importance of maintaining healthy skin.

REFERENCES

- Center for Disease Control. (n.d.). *How to Protect Yourself & Others* | CDC. Retrieved October 30, 2020, from <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>
- Darlenski, R., & Tsankov, N. (2020). COVID-19 pandemic and the skin: what should dermatologists know? *Clinics in Dermatology*, *xxxx*, 4–6. <https://doi.org/10.1016/j.clindermatol.2020.03.012>
- Dupont, E., Gomez, J., & Bilodeau, D. (2013). Beyond UV radiation: a skin under challenge. *International Journal of Cosmetic Science*, *35*(3), 224–232.
- Foo, C. C. I., Goon, A. T. J., Leow, Y., & Goh, C. (2006). Adverse skin reactions to personal protective equipment against severe acute respiratory syndrome—a descriptive study in Singapore. *Contact Dermatitis*, *55*(5), 291–294.
- Gheisari, M., Araghi, F., Moravvej, H., Tabary, M., & Dadkhahfar, S. (2020). Skin reactions to non-glove personal protective equipment: an emerging issue in the COVID-19 pandemic. *Journal of the European Academy of Dermatology and Venereology*, *34*(7), e297–e298. <https://doi.org/10.1111/jdv.16492>
- Long, H., Zhao, H., Chen, A., Yao, Z., Cheng, B., & Lu, Q. (2020). Protecting medical



- staff from skin injury/disease caused by personal protective equipment during epidemic period of COVID-19: experience from China. *Journal of the European Academy of Dermatology and Venereology*, 34(5), 919–921. <https://doi.org/10.1111/jdv.16388>
- Messaraa, C., Robertson, N., Walsh, M., Hurley, S., Doyle, L., Mansfield, A., Daly, L., Tansey, C., & Mavon, A. (2020). Clinical evidences of benefits from an advanced skin care routine in comparison with a simple routine. *Journal of Cosmetic Dermatology*, 19(8), 1993–1999. <https://doi.org/10.1111/jocd.13252>
- Pradhan, D., Biswasroy, P., Kumar Naik, P., Ghosh, G., & Rath, G. (2020). A Review of Current Interventions for COVID-19 Prevention. *Archives of Medical Research*, 51(5), 363–374. <https://doi.org/10.1016/j.arcmed.2020.04.020>
- Ring, J. (2020). The skin in the era of coronavirus pandemic. *Journal of the European Academy of Dermatology and Venereology*, 34(7), 1384–1385. <https://doi.org/10.1111/jdv.16718>
- Ring, J., Mościcka, P., Chróst, N., Terlikowski, R., Przyłipiak, M., Wołosik, K., & Przyłipiak, A. (2020). Hygienic and cosmetic care habits in polish women during COVID-19 pandemic. *Journal of the European Academy of Dermatology and Venereology*, 19(7), 1384–1385. <https://doi.org/10.1111/jdv.16718>
- World Health Organization. (n.d.). *Listings of WHO's response to COVID-19*. Retrieved October 30, 2020, from <https://www.who.int/news/item/29-06-2020-covidtimeline>
- Zu, Z. Y., Jiang, M. D., Xu, P. P., Chen, W., Ni, Q. Q., Lu, G. M., Zhang, L. J., Wang, D., Hu, B., Hu, C., Zhu, F., Liu, X., Zhang, J., Wang, B., Xiang, H., Cheng, Z., Xiong, Y., Zhao, Y., Li, Y., ... Peng, Z. (2020). H13. Coronavirus Disease 2019 (COVID-19): A Perspective from China. *Radiology*, 200490. <https://doi.org/10.1001/jama.2020.1585>
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