

Mask-related acne during the Covid-19 pandemic

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Dear Editor,

We read with interest in this Journal the review by Mendonça et al.¹ on mask-related acne (maskne) during the Covid-19 pandemic, a topic that deserves more attention, especially with the upcoming seasonal increase in respiratory virus infections in our country. The review analyzed 19 articles from 2020 to 2022, mostly from the United States, highlighting antecedents of acne and prolonged mask use (over 4 hours daily) as major risk factors. Classical lesions appeared in covered facial areas after six weeks of mask use, with effective management involving local cleansing, moisturization, and topical treatments like retinoids, benzoyl peroxide, and salicylic acid. Preventive measures included taking 15-minute breaks every 2 hours, avoiding use of the same mask for prolonged periods, and maintaining good hand hygiene¹.

The following additional comments aim to provide further insight into this issue, highlighting the value of the first article of reference.

Alparslan et al.² evaluated 83 individuals using surgical masks daily, assessing skin moisture, elasticity, pore size, melanin, acne, wrinkles, and sensitivity using an API-100 skin analyzer. They found increased pore size, melanin, acne, and wrinkles, with decreased moisture and elasticity². Sensitivity increased significantly among women. The study also showed substantial long-term negative effects of daily mask use. The authors recommended taking outdoor breaks from mask use, regular moisturizing, and intermittent face washing to mitigate these adverse effects².

Altin et al.³ surveyed 82 nurses regarding their use of personal protective equipment, including N95 masks and face shields, from December 2021 to June 2022. They reported an average use of 3.76 ± 1.36 hours daily, with over 90% experiencing skin problems. Pressure sores, acne, allergic dermatitis, contact urticaria, and local pain ranged from 4.9% to 79.3%, and nearly 54% required skin protective applications³.

Choi et al.⁴ evaluated data from 20 Korean hospitals between July and August 2021, involving 1,958 cases of facial dermatoses. Approximately 76% of patients experienced either aggravation of pre-existing dermatoses or new-onset dermatoses related to mask use. Factors associated with these issues included being a healthcare provider, female gender, and extended use of masks. The study found that both the daily duration and weekly frequency of mask-wearing were linked to the aggravation or development of acne, with significant associations for mask use over 4 hours daily and female sex⁴.

Dani et al.⁵ surveyed 227 resident physicians, medical students, and nursing students, primarily using surgical masks and respirators. Of these, 156 developed maskne. The most common preventive measures included using mild cleansers and moisturizers. The study highlighted that female gender and prolonged mask use were significant, non-modifiable risk factors for maskne development and should be targeted in preventive education⁵.

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Lujia et al.⁶ evaluated mask-related adverse skin reactions among 606 Orientals to identify risk factors for maskne. They found that 23.3% of participants reported exacerbation of maskne due to COVID-19, with the issue being more prevalent among women and healthcare workers who wore N95 masks for extended periods. The authors emphasized the significant social-psychological impact of maskne, particularly among women⁶.

Luong et al.⁷ studied the effects of prolonged mask use among 165 patients in Vietnam from May to July 2022. The participants had a mean age of 31.9 (18 to 72) years, with 53.3% being male. Approximately 53% of the patients reported experiencing acne, which negatively impacted their quality of life. The authors suggested proactive measures focusing on appropriate mask use practices to mitigate these effects⁷.

Massoud et al.⁸ studied data from 200 patients with a mean age of 25.5 years, including 152 females, in Karachi from January to April 2022. Of these patients, 76 (38%) were healthcare workers. Acne occurred in 157 individuals, with 78.3% being females. The study found a significant association between maskne and regular mask changing and pre-existing diagnosis of acne. The authors concluded that using the same mask for 6 or more hours increases the likelihood of acne eruptions⁸.

Mościcka⁹ reviewed nearly 300 articles on skin diseases during the COVID-19 pandemic and concluded that acne is a major condition caused by mask use. The review highlighted that acne frequently developed in individuals using masks, regardless of their previous history of acne vulgaris. Nearly 53% of individuals frequently using N-95 masks experienced acne eruptions, with an increased risk associated with mask use for at least 4 hours daily and with mask reuse compared to frequently changing them. These findings are valuable for understanding and managing mask-related skin issues, especially during seasonal infections⁹.

Santosa et al.¹⁰ investigated patient factors related to worsening or new acne-related symptoms between April and May 2020 in Singapore. The study found that females and pharmacists experienced more severe worsening of acne or new acne-related symptoms. Wearing a surgical mask for less than 5 hours was associated with fewer worsening or new acne-related symptoms. Older age was associated to a lower risk of worsening acne or new acne-related symptoms (40-49 years: OR, 0.53, CI, 0.29-0.95; >50 years: OR, 0.26, CI, 0.13-0.52), reflecting the hormonal changes and overall reduced prevalence of acne in older adults¹⁰.

In conclusion, the insights gained from recent studies during the pandemic underscore the importance of applying findings on mask-use to mitigate mask-related skin issues.

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KEY WORDS: Acne; Covid-19; Maskne; Masks

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