

## LETTER TO THE EDITOR

## Maskne prevalence and risk factors during the COVID-19 pandemic

Dear Editor,

From 2020 with the spreading of COVID-19 pandemic, mask usage has become mandatory for healthcare workers and patients in order to avoid virus transmission; maskne is a new coined term widely used to describe the form of mechanical acne resulting from the continuous adherence and friction of the mask to the face; to date, several dermatoses, including maskne, have already been reported in healthcare workers and patients.<sup>1</sup> We read with great interest the article recently published by Kiely LF *et al.*<sup>2</sup> who investigated the prevalence of acne related to prolonged mask wearing among the healthcare workers of three Irish university hospitals, and we also want to report our experience regarding the onset of maskne disease in patients attending our Department. A total of 384 patients (272 females and 112 males; median age 26.5) with a diagnosis of mechanical acne due to mask wearing attending our hospital from February 2021 to December 2021 were included in the study. Each patient was clinically evaluated and completed a questionnaire regarding the onset of acne, previous history of acne, the personal protective equipment (PPE) exposure, maskne development, and the use of contributing factors; most patients (70.8%) were females; 64 patients (16.6%) were aged 15–20 years, 232 (60.4%) were aged 21–30 years, 71 (18.5%) were aged 31–40 years and 17 (0.5%) were > 40 years. 129 out of 384

(33.6%) patients reported a previous history of acne and 178 out of 384 (46.3%) had at least a first-degree relative suffering or had suffered of acne. They were all Caucasian patients with the 76.3% (293/384) reporting the onset of acne since the beginning of mask wearing and the remaining ones (23.7%; 91/384) describing a worsening of acne lesions since the mask usage. The 87.8% of patients included were type I-II Fitzpatrick scale and 12.3% were type III; no type IV Fitzpatrick scale patients were included. Regarding acne clinical forms: 158/384 (41.1%) presented micro-comedonal lesions, 174/384 (45.3%) presented with papulo-pustular eruptions and the 13.6% (52/384) presented nodulo-cystic lesions; cheeks and chin were the sites most frequently involved. As regards to the degree of severity, 32%, 54% and 14% presented with mild, moderate and severe degree of acne, respectively.

As reported by Kiely *et al.* the factors major associated to maskne onset were female gender, the range of age between 21 and 30 years and a familiar history of acne. Interestingly, over the half of patients included (74.5%; 286/384) referred the daily use of emollients under the mask and the majority of them worked in closed environments. A comparison between our population and Kiely *et al.* cohort is shown in Table 1. A statistically significant difference in mean age ( $P < 0.0001$ ), family history of acne ( $P < 0.0001$ ) and maskne development [*de novo* acne ( $P < 0.01$ ) and acne exacerbation ( $P < 0.0001$ )] was assessed between the two populations. Main limitation of the study was the self-reported questionnaire. However, the diagnosis of maskne performed by a dermatologist reduced the risk of a diagnostic error.

**Table 1** Comparison between Kiely *et al.*'s population and ours

	Our study (n = 384)	Kiely <i>et al.</i> <sup>2</sup> (n = 337)	P
<b>Time of observation</b>	February 2021–December 2021	April 2021–May 2021	N/A
<b>Demographic features</b>			
State	Italy	Ireland	N/A
Sex, F (%)	272 (70.8)	285 (84.6)	ns
Mean age (years)	26.5	46.1	<0.0001
15–20 years	64 (16.6)	NR	ns
20–30 years	232 (60.4)	165 (49.0)	ns
31–40 years	71 (18.5)	93 (27.6)	<0.05
>40 years	17 (0.5)	79 (23.3)	<0.0001
<b>Acne history</b>			
Previous history of acne	129 (33.6)	87 (26.0)	ns
Family history	178 (46.3)	84 (25.5)	<0.0001
<b>Maskne development</b>			
<i>de novo</i> acne	293 (76.3)	180 (53.4)	<0.01
Acne worsening	91 (23.7)	157 (46.6)	<0.0001

Maskne is a facial dermatosis associated to mask use.<sup>3</sup> Even if numerous strategies have been adopted to continuously offer clinical care to patients with acne during pandemic,<sup>4,5</sup> the continuous use of mask to contain the spread of Covid-19 has caused an increase in maskne incidence.<sup>6</sup> However, further studies are needed in order to understand the pathogenetic mechanism and the best therapeutic approach. Clinicians should keep in mind the possibility of maskne development, advising patients on the general measures required to prevent or reduce this side effect.

### Acknowledgement

The patients in this manuscript have given written informed consent to publication of their case details.

### Conflicts of interest

The authors declare no conflict of interest.

### Funding source




None.

### Ethical approval

Not required.

### Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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DOI: 10.1111/jdv.18248