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## ABSTRACT BOOK

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# PPE RELATED SKIN REACTIONS IN HEALTHCARE PROFESSIONALS DURING COVID 19

Nkemjika Abiakam<sup>1</sup>, Peter Worsley<sup>1</sup>, Hemalatha Jayabal<sup>1</sup>, Dan Bader<sup>3</sup>

<sup>1</sup> University of Southampton, School of Health Sciences, Southampton, United Kingdom

**Introduction:** Since the outbreak of COVID-19 pandemic, clinicians have had to use personal protective equipment (PPE) for prolonged periods. This has been associated with detrimental effects, especially in relation to the skin health. Among the conditions, pressure ulcers (PUs), erythema, contact dermatitis and moisture associated dermatitis have been the most commonly reported (Wang and Parish 2019). In particular, respirator protective equipment (RPE) have been associated with skin damage most frequently, as indicated by nasal bridge, cheek and ear symptoms.

The present study describes a comprehensive survey of healthcare workers (HCWs) with a focus on reporting the nature and frequencies of adverse skin reactions to PPE, as well as addressing factors which are implicated in skin reactions.

**Methods:** A prospective survey questionnaire was designed to capture the impact of respirator protective equipment (RPE) on the skin of hospital staff. The survey, disseminated to HCWs at three different UK NHS acute centers, collected information in relation to staff experience with PPE.

**Results:** A total of 307 HCWs responded to the survey. 38 (12%) were male, 268 (88%) were female, 51 (17%) were doctors and 209 (68%) were nurses. Six adverse skin reactions were reported, namely, redness blanching (33%), pressure damage (12%), itchiness (22%), rash (9%), dry skin (13%) and spots (11%). These occurred on anatomic skin locations associated with RPE and face shields. Statistically significant correlations ( $p < 0.05$ ) were observed between the average daily time of PPE usage (Figure 1A), the time period for which the PPE was doffed from the skin (Figure 1B) and the manifestation of skin adverse reactions at the anatomic site of investigation, namely the bridge of the nose.

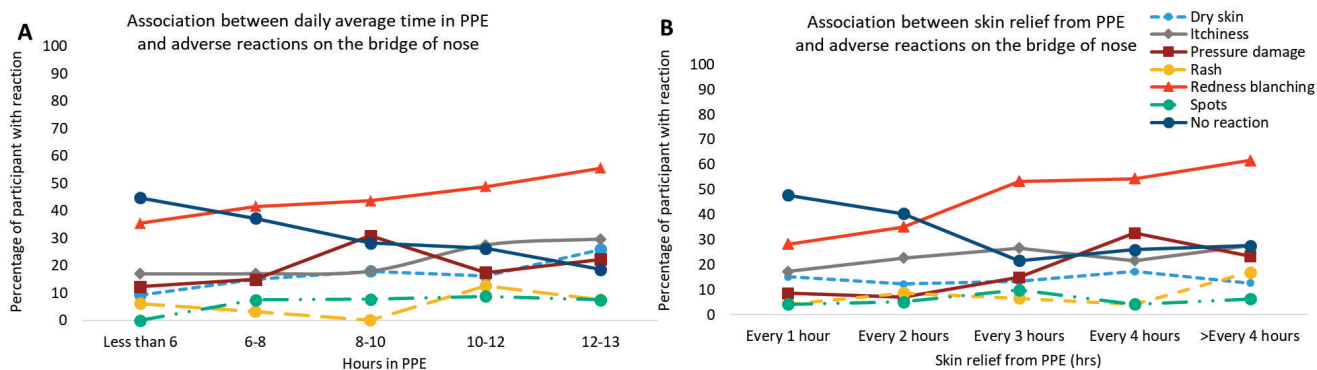


Figure 1. Correlations between the average daily time of PPE use (A), the frequencies of skin relief from PPE (B) and adverse skin reactions on the bridge of nose.

**Conclusions:** Adverse skin reactions to PPE were related to the duration of use and the frequency of removals during a given clinical shift. Sites most effected included the bridge of the nose associated with generic RPE designs incorporating stiff materials at the skin interface. Improvements in guidelines for PPE use and modifications to RPE designs are required to protect skin health.

### References:

Wang, J. and L. Parish (2019). "Dermatologic Manifestations of the 1918-1919 Influenza Pandemic." *Skinmed* 17(5): 296.

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