












aware of this finding as cannabinoids are an emerging therapy for chronic pruritus.

This study is limited by a focus on inpatient populations, which may restrict the generalizability of our findings. It is also possible that individual patients contribute to multiple hospitalizations in our sample. Further, causal relationships cannot be inferred owing to the cross-sectional study design and lack of temporality between PN and SUDs. Nevertheless, this study is the first to detect associations between PN and opioid, cannabis and cocaine use disorders. Physicians may use these findings to guide screening for such SUDs in patients with PN and refer to healthcare specialists when appropriate.

Matthew T. Taylor ,¹ Zachary A. Bordeaux ,¹ Junwen Deng ,¹ Varsha Parthasarathy ,¹ Waleed Adawi,¹ Olusola O. Oladipo ,¹ Ali Alajmi ,¹ Kevin K. Lee ,¹ Melika Marani ,¹ Hannah Cornman ,^{1,2} Anusha Kambala,^{1,3} Sylvie Gabriel ,⁴ and Shawn G. Kwatra ,^{1,5}

¹Department of Dermatology, Johns Hopkins School of Medicine, Baltimore, MD, USA; ²University of Maryland School of Medicine, Baltimore, MD, USA; ³George Washington University School of Medicine and Health Sciences, Washington, DC, USA; ⁴Galderma SA, Lausanne, Switzerland; and ⁵Department of Oncology, Johns Hopkins School of Medicine, Baltimore, MD, USA

Email: skwatra1@jhmi.edu

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Data availability: further information regarding the data and its purchase are available through the Healthcare Cost and Utilization Project (Agency for Healthcare Research and Quality), available at <https://www.hcup-us.ahrq.gov/nisoverview.jsp> (last accessed 27 May 2022).

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Colonization with *Staphylococcus aureus* in healthcare workers: consequences of hand eczema

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DEAR EDITOR, Hand eczema (HE) is a common inflammatory skin disease with a 1-year prevalence of up to 21% in healthcare workers (HCWs).¹ As more than half of patients with HE are colonized with *Staphylococcus aureus* on their hands, strongly related to disease severity,² HCWs with HE may constitute a risk of transmitting *S. aureus* to patients, leading to hospital-acquired infections. However, real-life studies evaluating the prevalence of *S. aureus* in HCWs with HE are sparse. Therefore, in this case-control study we aimed to investigate *S. aureus* colonization in HCWs with and without HE.

From two previous surveys, we identified HCWs (i.e. physicians, nurses, auxiliary nurses and a 'mixed group' comprising biotechnicians, midwives and physiotherapists) from different clinical departments from hospitals in the Greater Copenhagen area reporting HE ('Do you have HE today?').

A total of 147 HCWs with HE were eligible for the study^{3,4} and were contacted. Between July 2020 and June 2021, 77 HCWs with HE were consecutively included together with age- and sex-matched controls, i.e. HCWs without HE identified from the surveys.^{3,4} All HCWs underwent clinical examination comprising assessment of HE severity using the HE Severity Index (HECSI)⁵ and sampling of bacteria using ESswabs™ (COPAN, Brescia, Italy). In HCWs with HE, samples were collected from the most severe HE lesions and from the anterior nares. In HCWs with HE, but without active lesions at the time of the visit, a sample was taken from an area representing a previous lesion. Controls were matched to patients with HE regarding the sample site from the hand, and samples from anterior nares were collected. Emollients, topical therapies, hand washings and alcohol-based hand rubs (ABHR) were allowed, to mimic a real-life situation. Fifty µL from

each swab transport medium were applied to *S. aureus* SaSelect™ selective plates (Bio-Rad, France) and subsequently incubated at 37 °C for 24 h. For samples that did not generate any *S. aureus* colonies, a step of enrichment in liquid broth was performed before plating on SaSelect™ plates.

For categorical data, the χ^2 -test or Fisher exact test was used, and for continuous data, the Mann–Whitney U-test was applied. P-values < 0.05 were considered statistically significant. The study was approved by the local ethics committee (H-20007169) and Danish Data Protection Agency.

Results are given in Table 1. In HCWs with HE, mean \pm SD HECSI was 10.0 \pm 11.5 points. *S. aureus* was cultured from the hand of eight (10%) HCWs with HE (all with HECSI \geq 3 points), and from one (1%) of the controls (P = 0.017). With respect to nasal *S. aureus* colonization, 26 (34%) HCWs with HE were colonized as compared with 20 (26%) controls (P = 0.379) (Table 1). Five HCWs with HE had *S. aureus* in

both HE and anterior nares. Nasal *S. aureus* density was higher in HCWs with HE compared with controls (Table 1). HCWs colonized with *S. aureus* on their hands had significantly more severe HE as assessed by HECSI, and they used more topical corticosteroid (TCS) than those without colonization (Table 1). The colonization was not associated with a history of atopic dermatitis.

The low prevalence of *S. aureus* in HCWs with HE may be ascribed to the mild HE severity² and maybe also to the allowance of regular hand hygiene. The fact that TCS associated significantly with *S. aureus* colonization in HE is most probably linked to the increased HE severity in this group. Although our results reveal that *S. aureus* colonization in HE in HCWs may not be as frequent as anticipated vs. patients with HE in general, the presence of *S. aureus* on the hands may still be problematic in the healthcare sector owing to the risk of hospital-acquired infections. Even though hand hygiene

Table 1 Characteristics of study population and colonization of *Staphylococcus aureus*

	HCWs with HE (n = 77)			Controls (n = 77)		
Sex						
Female	62 (81)			62 (81)		
Male	15 (20)			15 (20)		
Age, years (mean \pm SD)	46.8 \pm 11.9			47.0 \pm 12.0		
Profession						
Physician	12 (16)			21 (27)		
Nurse	50 (65)			44 (57)		
Auxiliary nurse	6 (8)			6 (8)		
Mixed group	9 (12)			6 (8)		
HECSI, mean \pm SD (range)	10.0 \pm 11.5 (0–55)					
Self-reported HE severity (0–10)	2.5 \pm 2.3					
Colonization with <i>S. aureus</i>						
Lesional/hand, yes ^a	8 (10)			1 (1)		
> 10 <i>S. aureus</i> colonies	1 (13) ^b			0 (0) ^c		
Nasal, yes	26 (34)			20 (26)		
> 10 <i>S. aureus</i> colonies	20 (77)			8 (40)		
	HCWs with HE					
	Hand			Nose		
	Colonized n = 8	Not colonized n = 69	P-value ^d	Colonized n = 26	Not colonized n = 51	P-value
TCS within last week, yes	5 (63)	9 (13)	0.004	8 (16)	6 (23)	0.534
ABHR applied within last hour, yes	4 (50)	51 (74)	0.215	17 (65)	38 (75)	0.433
HECSI, mean \pm SD (range)	20.9 \pm 11.0 (3–36)	8.7 \pm 10.9 (0–55)	0.004^e	9.4 \pm 9.6 (0–36)	10.3 \pm 12.4 (0–55)	0.737 ^e
Severity (HECSI score)			0.008			0.762
Clear (0)	0 (0)	14 (20)		4 (15)	10 (20)	
Mild (1–16)	3 (38)	45 (65)		18 (69)	30 (59)	
Moderate (17–37)	5 (63)	7 (10)		4 (15)	8 (16)	
Severe–very severe (> 38)	0 (0)	3 (4)		0 (0)	3 (6)	
Atopic dermatitis ever, yes ^f	2 (29)	25 (37)	1.000	15 (46)	12 (31)	0.184

All values are n (%), unless otherwise stated. Percentages may not total 100 due to rounding. HCWs, healthcare workers; HE, hand eczema; HECSI, hand eczema severity index; TCS, topical corticosteroid; ABHR, alcohol-based hand rub. ^aThe area sampled from the hand of the control was matched to the lesional area of the case. ^bThe two samples that became positive after enrichment were considered samples with \leq 10 colonies. ^cThe sample (n = 1) that became positive after enrichment was considered to have \leq 10 colonies. ^d χ^2 -test or Fisher exact test. ^eMann–Whitney U-test. ^fParticipants responding 'Don't know' to having had atopic dermatitis were excluded (n = 9). P-values shown in bold are statistically significant.

procedures may be strictly followed by HCWs, the efficacy of ABHR when used on HE is being questioned, as it has been shown to be ineffective in reducing *S. aureus* in patients with HE.⁶ Nasal *S. aureus* carriage in HCWs was in line with data based on Norwegian HCWs, with a prevalence of 26.2%.⁷ Interestingly, nasal colonization rate was considerably lower in our study as compared with 72% in a Danish study comprising patients with HE;² however, these patients were sampled four times during a week and had moderate-to-severe HE, which could explain the difference. The healthy-worker effect may explain why most HE cases were mild. Permitting topical therapies and hand hygiene as usual enabled an exploration of *S. aureus* colonization in HCWs in a real-life setting.

The fact that 10% of the HCWs with HE were colonized with *S. aureus* on their hands, despite hand hygiene as usual, vs. only 1% of the HCWs without HE, indicates that HCWs with HE may comprise a risk in transmitting bacteria to patients. Owing to the possible consequences, special attention should be paid to secondary preventive programmes and early treatment of HE in accordance with guidelines in the health-care sector.

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Conflicts of interest





The authors declare they have no conflicts of interest.

Data availability

The data supporting the findings of this study are available from the corresponding author on reasonable request.

Ethics statement

The study has been approved by the local ethics committee (approval no. H-20007169).

Yasemin Topal Yüksel ¹, Sofie Marie Edslev,² Anne Klose Janstrup,¹ Mie Sonne Goldman,¹ Line Brok Nørreslet ¹, Paal Skytt Andersen ² and Tove Agner ¹

¹Department of Dermatology, Bispebjerg & Frederiksberg Hospital, University of Copenhagen, 2400 Copenhagen, NV, Denmark; and ²Department of Bacteria, Parasites, and Fungi, Statens Serum Institut, 2300 Copenhagen S, Denmark

Email: yasemin.topal.yueksel@regionh.dk

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Patients' attitudes towards active surveillance for basal cell carcinoma

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DEAR EDITOR, Basal cell carcinoma (BCC) is the most common cancer in the United States (US). Despite the slow-growing nature and low risk for metastasis (incidence range: 0.0028–0.55%)¹ and mortality (approximately 0.12 per 100 000),² most BCCs are treated surgically, irrespective of life expectancy.³ Previous studies suggest that 30–50% of BCCs remain stable in size or regress over time.^{4–6} The majority of patients aged 85 years or older or with multiple comorbidities are often not bothered by their nonmelanoma skin cancer, and over 40% of these patients die within 5 years of their BCC treatment due to unrelated causes.³ This suggests that some older patients may not be gaining value from their treatment. Due to these findings, some authors have proposed active surveillance protocols for some low-risk BCCs in patients with limited life expectancy.^{6–8} The objectives of this study were to determine patients' attitudes and concerns regarding active surveillance for BCC, and to evaluate how an educational video on BCC influences patients' perception of active surveillance.

We conducted a pre/post survey study of 201 consecutive participants recruited from the waiting room of an outpatient dermatology clinic from August 2019 to October 2020. This study was approved by the Minneapolis VA Health Care System (IRB #VAM-19-00447). The questions included in the surveys were: 'If you were told you have a small basal cell skin cancer (the size of a dime or smaller) today would you have any concerns about not treating it and just having your doctor watch it?'; 'If you have concerns about not treating a small basal cell skin cancer (the size of a dime or smaller) and your doctor only watching it, what would your concerns be?';