

Self-Reported Hand Eczema: Assessment of Prevalence and Risk Factors in Health Care Versus Non-Health Care Workers During the COVID-19 Pandemic

To the Editor:

During this earthshaking pandemic, proper hand hygiene is one of the most important preventive measures against coronavirus disease 2019 (COVID-19).¹ However, excessive hand disinfection may damage the skin barrier function and result in some complications including hand contact dermatitis.²

This cross-sectional study approved by the ethics committee of our institute (IR.SBMU.SRC.REC.1399.002) was performed using a web-based self-administered questionnaire based on Nordic Occupational Skin Questionnaire to assess hand dermatitis prevalence and severity, which was validated in Persian.^{3,4} This questionnaire was administered to the health care workers (HCWs) working in different hospitals and was also broadcasted over social media to the general population (non-HCWs) for 2 weeks (from May 1 to 14, 2020). The data were statistically analyzed using the SPSS software, version 25.

The response rates to the questionnaire were 78.7% and 57.7% in HCWs and non-HCWs, respectively. A total of 1145

TABLE 1. The Demographic Data and Clinical Findings of All Subjects

		HCW (n = 390)	Non-HCW (n = 755)	P
Sex	Male	100 (25.6)	164 (21.7)	0.136
	Female	290 (74.4)	591 (78.3)	
Age, y	Mean $\pm$ SD	34.57 $\pm$ 9.41	35.65 $\pm$ 8.62	0.53
Marital status	Single	199 (51)	283 (37.5)	<0.001
	Married	191 (49)	472 (62.5)	
Educational level	Diploma or lower	16 (4.1)	121 (16)	<0.001
	BSc/BA	116 (29.7)	355 (47)	
	MSc, MD	132 (33.8)	249 (33)	
	PhD or higher	126 (32.3)	30 (4)	
Work hours per week	<20	19 (6.2)	59 (16.2)	0.003
	20–39	84 (27.4)	100 (27.4)	
	40–59	154 (50.2)	152 (41.6)	
	60–79	28 (9.1)	34 (9.3)	
	80–99	10 (3.3)	11 (3)	
	≥ 100	12 (3.9)	9 (2.5)	
	Mean* $\pm$ SD	2.87 $\pm$ 1.04	2.63 $\pm$ 1.10	
History of dermatological diseases		131 (33.6)	274 (36.3)	0.365
Chronic comorbidities		44 (11.4)	105 (14)	0.221
Rhinitis		207 (53.1)	393 (52.1)	0.841
Conjunctivitis		135 (34.6)	278 (36.8)	0.304
Asthma		37 (9.5)	52 (6.9)	0.262
Hypersensitivity to gloves	Latex	127 (32.6)	102 (13.5)	<0.001
	Others	80 (20.5)	145 (19.2)	
	Total	151 (41)	181 (30.8)	
History of HE		188 (48.2)	309 (40.9)	0.019
History of COVID-19		18 (4.6)	8 (1.1)	<0.001
Total prevalence of HE during COVID-19		300 (76.9)	554 (73.4)	0.192
Exacerbation of HE during COVID-19†		178 (94.7)	282 (91.3)	0.159
New case of HE during COVID-19		122 (31.3)	272 (36)	0.109

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eligible subjects consisting of 390 HCWs (290 female and 100 male subjects; mean age = 34.57 $\pm$ 9.41 years) and 755 non-HCWs (591 female and 164 male subjects; mean age = 35.65 $\pm$ 8.62 years) were included in the study. Table 1 shows the baseline demographics and clinical characteristics of both groups. There were

TABLE 1. (Continued)

		HCW (n = 390)	Non-HCW (n = 755)	P
Frequency of handwashing per day	0–5×	41 (10.5)	89 (11.8)	0.586
	6–10×	117 (30)	223 (29.5)	
	11–20×	146 (37.4)	238 (31.5)	
	>20×	86 (22.1)	205 (27.2)	
	Mean [‡] ± SD	2.71 ± 0.93	2.74 ± 0.99	
Duration of handwashing, s	1–5	6 (1.5)	25 (3.3)	0.607
	6–10	49 (12.6)	136 (18)	
	11–15	106 (27.2)	160 (21.2)	
	16–20	163 (41.8)	278 (36.8)	
	>20	66 (16.9)	156 (20.7)	
	Mean [§] ± SD	3.60 ± 0.96	3.54 ± 1.10	
Frequency of hand disinfection per day	0–5×	147 (38)	443 (59.5)	<0.001
	6–10×	121 (31.3)	147 (19.7)	
	11–15×	45 (11.6)	52 (7)	
	16–20×	41 (10.6)	46 (6.2)	
	>20×	33 (8.5)	57 (7.7)	
	Mean ± SD	2.20 ± 1.28	1.83 ± 1.25	
Type of hand disinfection	Alcohol based	326 (83.6)	544 (72.1)	<0.001
	Soap	348 (89.2)	655 (86.6)	0.228
	Other	5 (1.3)	10 (1.3)	0.952
Frequency of hand cream application	<1×/d (1–6×/wk)	36 (12)	70 (11.9)	0.463
	1–2×/d	131 (43.7)	280 (47.7)	
	3–5×/d	77 (25.7)	129 (22)	
	>5×/d	56 (18.7)	108 (18.4)	
	Mean [¶] ± SD	2.51 ± 0.93	2.47 ± 0.92	

Data are presented as n (%), unless otherwise indicated.

*Mean for work hours per week: 1 = <20 h, 2 = 20–39 h, 3 = 40–59 h, 4 = 60–79 h, 5 = 80–99 h, and 6 = ≥100 h.

†Among those with a history of hand eczema.

‡Mean for daily frequency of handwashing: 1 = 0–5×, 2 = 6–10×, 3 = 11–20×, and 4 = >20×.

§Mean seconds for duration of handwashing: 1 = 1–5 s, 2 = 6–10 s, 3 = 11–15 s, 4 = 16–20 s, 5 = >20 s.

||Mean number of times for daily frequency of disinfection: 1 = 0–5×, 2 = 6–10×, 3 = 11–15×, 4 = 16–20×, and 5 = >20×.

¶Mean for frequency of hand cream application: 1 = <1×/d, 2 = 1–2×/d, 3 = 3–5×/d, and 4 = >5×/d.

BA, bachelor of arts; BSc, bachelor of science; COVID-19, coronavirus disease 2019; HE, hand eczema; HCW, health care worker; MSc, master of science; MD, medical doctor; n, number; PhD, doctoral degree.

no significant differences between the 2 groups regarding the sex and age of participants.

The total prevalence of hand eczema during the COVID-19 pandemic in HCWs and non-HCWs was 76.9% and 73.4%, respectively; there was no significant difference ($P = 0.192$). Moreover, 31.3% of HCWs and 36% of non-HCWs reported experiencing hand eczema for the first time during the pandemic ($P = 0.109$), whereas among those with a history of hand eczema, exacerbation of eczema was reported in 97.4% and 91.3% of HCWs and non-HCWs, respectively ($P = 0.159$; Table 1).

There was no significant difference between HCWs and non-HCWs in terms of daily frequency of handwashing (2.71 ± 0.93 vs 2.74 ± 0.99 , respectively, $P = 0.586$). Health care workers disinfected their hands significantly more than did non-HCWs (2.28 ± 1.28 vs 1.83 ± 1.25 , respectively, $P < 0.001$).

The most common sites of hand eczema in both HCW and non-HCW groups were the dorsal hand, fingers, and wrist.

Although dryness, itching, and erythema, respectively, were the most common self-reported symptoms in the 2 groups, dryness and itching were significantly higher in HCWs than in non-HCWs ($P = 0.002$ and $P = 0.012$, respectively). Eczema severity score was significantly higher in the non-HCW group than in the HCW group (5.63 ± 2.07 vs 5 ± 2.23 , respectively, $P < 0.001$; Table S1 see Supplemental Digital Content 1, <http://links.lww.com/DER/A43>).

In all subjects, hand eczema was associated with sex, history of dermatological diseases, hypersensitivity to gloves and latex gloves, history of eczema, frequency of handwashing, and using soap for hand disinfection ($P < 0.05$). In the non-HCW group, hand eczema was also correlated with age, educational level, rhinitis, and allergic conjunctivitis ($P < 0.05$). On the other hand, there was an association in HCWs between hand eczema and duration of handwashing ($P = 0.039$; Table S2 see Supplemental Digital Content 2, <http://links.lww.com/DER/A44>).

Hand eczema prevalence in this study is consistent with the findings of Lan et al,⁵ who reported a 74.5% prevalence of hand eczema among 526 HCWs during the COVID-19 pandemic.

Our findings showed no difference between HCWs and non-HCWs in terms of prevalence of hand eczema; however, there were some differences in the risk factors involved in eczema. According to previous studies conducted before the pandemic, it seems that hand eczema prevalence has increased during the COVID-19 pandemic (approximately 1.4) in HCWs. Proper identification of risk factors for hand eczema along with health education in this pandemic could aid in the prevention of eczema.

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Acute Pancreatitis in 2 Adolescent Boys on Dupilumab Therapy for Atopic Dermatitis

To the Editor:

Dupilumab is an injectable, monoclonal interleukin 4 receptor antibody approved for the treatment of both moderate to severe atopic dermatitis (AD) and asthma in patients 12 years or older.¹ Adverse events related to dupilumab treatment are typically mild and include conjunctivitis and injection-site reactions.² Rare adverse effects of newer drugs such as dupilumab may arise during ongoing safety monitoring. Herein, we present 2 cases of acute pancreatitis in adolescent boys while on treatment with dupilumab.

Patient 1 was a 17-year-old adolescent boy with no significant medical history when he presented for treatment of severe AD. Prior therapy included methotrexate 20 mg weekly (stopped in 2016). The patient continued to flare, despite treatment with cyclosporine 250 mg daily. In April 2017, he started dupilumab 300 mg every 2 weeks. In June 2017, dupilumab was increased to 300 mg weekly because of lack of improvement. After 2 weeks, he had an AD flare and secondary bacterial infection and was treated with a 1-week prednisone taper and doxycycline 100 mg twice daily for 10 days. Cyclosporine 300 mg daily was also restarted at this time. (Patient 1 had been taking this medication intermittently for severe flares since 2014). Twenty days after increased frequency of dupilumab was commenced, he presented to the emergency department with acute onset of severe abdominal pain, nausea, vomiting, and diarrhea. Workup was notable for elevated triglyceride (253 mg/dL) and elevated lipase (2879 U/L) levels. Abdominal ultrasound revealed inflammatory changes along the pancreas but no cholelithiasis or bile duct

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