in the process of drug development. It is documented to be most efficacious in high doses at approximately 6–7 g/day orally, which is well tolerated.[1] It has been widely used as a common household remedy for cough, sore throat and respiratory ailments in Asia.

Since December 2019, coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus, has spread rapidly throughout the world and the World Health Organization (WHO) declared it a global pandemic on 11 March 2020. As of May 2020, more than 212 countries across the world had reported over 4 million cases and over 280 000 deaths. So far, no specific medicine has been recommended for its cure or prevention, although antiretroviral drugs and hydroxychloroquine have been used in a few centres.

Numerous curcumin derivatives have been evidenced to have antiviral properties. Studies using neuraminidase activation assay showed that five active curcumin derivatives decreased H1N1-induced neuraminidase activation in H1N1-infected lung epithelial cells.[2] Tetramethylcurcumin and curcumin even downregulates nucleoprotein expression.[2,3] Various researchers have found turmeric derivatives useful in the management of influenza virus infections. Richart *et al.* observed that monoacetylcurcumin and curcumin both inhibited influenza virus infection, but via different pathways.[3] Significant antiviral activity of turmeric against H5N1 (highly pathogenic avian influenza) virus in Madin–Darby canine kidney (MDCK) cells *in vitro* by interfering with viral haemagglutination (HA) activity has also been observed. The effects of anti-H5N1 virus activity by turmeric extracts were demonstrated by upregulation in the tested MDCK cells of the mRNA expression of the genes for tumour necrosis factor-α and interferon-β, which are potent antiviral agents.[3] Curcumin has been found to be beneficial in other viral disorders such as AIDS due to its inhibitory activity against HIV protease and integrase along with its synergistic action on other therapeutic drugs.[4] It has also been shown to inhibit other viruses such as hepatitis B, hepatitis C, zika, chikungunya and dengue. Respiratory distress syndrome with fulminant hypercytokinaemia and multiorgan failure is the leading cause of mortality with COVID-19. Curcumin has been found to attenuate influenza A virus-induced lung tissue injury by blocking nuclear factor κB signalling and inhibiting the production of inflammatory cytokines. Curcumin is a natural ligand of peroxisome proliferator-activated receptor-γ, which represses the inflammatory process by reducing cytokine production; therefore, it might play a similar role in protecting against lung injury associated with COVID.[5]

Turmeric has been used for centuries with a good safety profile. It has shown promising efficacy against influenza A viral infections by regulating the immune response to prevent injury to pulmonary tissue. Well-defined randomized studies should be performed to evaluate the efficacy of turmeric derivatives against SARS-CoV-2 and assess its value as a possible treatment for this deadly virus.

Conflict of interest

The authors declare that they have no conflicts of interest.

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‘Cell-phone acne’ epidemic during the COVID-19 pandemic

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As the world continues with the longest and most widespread lockdown in its history, many people are turning towards an increased use of mobile/cell phones as the most convenient way to stay connected. However, this convenience is also taking a toll on patients’ overall skin health, particularly in those with acne.

We report on a case group of 13 patients who presented via telemedicine consultations. The study participants comprised healthcare workers and members of the general public during a period of 1 month (1–30 April 2020) who reported new acne eruption or flares of existing acne, mainly involving one side of the face.

Table 1 Demographic and clinical features of study cohort.

Parameter	Result
Patients, *n*	13
Age, years; mean ± SD	21.71 ± 8.19
Sex, F/M (*n*)	1.6/1 (8/5)
Pre-existing acne, *n* (%)	9 (69.23)
F/M, *n* (%)	6/3 46.15/23.08
New-onset acne, *n* (%)	4 (30.77)
F/M, *n* (%)	2/2 (15.39/15.39)
Right/left side acne dominance, *n* (%)	10/3 (76.92/23.08)
Cell phone–skin contact time, h; mean ± SD[a]	
Before lockdown	2.47 ± 2.15
During lockdown	3.39 ± 1.33
Used cell phone while charging, *n*	8 (53.33)
History of wearing masks[b]	10 (76.92)

[a]Information gathered from screen time applications on cell phones; [b]N95 or homemade.

Table 2 Grade and type of lesions.

Parameter	Dominant side	Nondominant side	*P*[a]
Investigator Global Acne Assessment on Modified Cook scale, *n* (%)			
Grade 0	0	4 (30.77)	0.03[b]
Grade 1	1 (7.69)	2 (15.39)	0.55
Grade 2	3 (23.08)	4 (30.77)	0.66
Grade 3	6 (46.15)	3 (23.08)	0.23
Grade 4	2 (15.39)	0	0.15
Grade 5	1 (7.69)	0	0.32
Lesion type, *n*; mean ± SD			
Total lesions	23.44 ± 11.12	11.94 ± 5.62	< 0.01[b]
Inflammatory lesions	19.36 ± 8.61	8.17 ± 4.53	< 0.01[b]
Noninflammatory lesions	15.93 ± 5.17	13.22 ± 5.87	0.22

[a]*P* value computed by unpaired *t*-test or $n - 1$ χ^2 test as appropriate; [b]$P \leq 0.05$ was statistically significant.

Relevant history including duration of use of the phone pressed against the cheek (both before and after lockdown), habit of using cell phone pressed against the cheek during charging, previous history of acne and medications used, were noted. Clinical photographs were obtained, and the total number of lesions including inflammatory and noninflammatory, were counted and grading of severity of acne was done according to the Investigator Global Acne Assessment on Modified Cook's scale.

Of the 13 patients observed, 9 (69.23%; mean age 19.37 ± 3.61 years) had pre-existing acne, while the remaining 4 (30.77%; mean age 22.07 ± 4.12 years) reported new-onset acne (Table 1). Grade 3 acne was the most common stage, occurring in six patients (46.15%), while inflammatory lesions (papules, pustules and nodules) were the predominant acne type, occurring in 54.86% (Table 2). All the patients reported increased cell phone use and cell phone–skin contact time during the lockdown period. Interestingly, we observed a unique pattern of acne in these patients. There was a predilection for larger numbers of acne lesions and/or worse disease severity on the side of the face that came in most frequent contact with a cell phone while talking (Table 1, Fig. 1).

The data on eruption of acne or acne flare up due to cell-phone use are limited. Although a few studies have reported skin rash and a burning sensation due to cell-phone use, the occurrence of acne has not been specifically reported with it.[1] Unilateral predominance of facial acne was noted by Schwartz,[2] but in that study, it was due to thermogenic aggravation from sources of heat such as sleeping on one side, washing and bathing with hot water, sunbathing, vigorous sports and hot, humid climates.

Taheri *et al*. proposed that short-wavelength visible light emitted from smartphones may increase the proliferation of *Staphylococcus aureus* and thus may induce acne.[3] Along with this theory we speculate that dissipation of heat from the cell phone, friction, trapping of sweat and oil, build-up of dust and contamination with micro-organisms, including *Staphylococcus* may also trigger or flare acne.[4]

To prevent such flares, cell phones should be regularly cleaned. Manufacturer's recommendations vary, but Apple recommends cleaning with a soft, slightly damp, lint-free cloth.[5] Care should to be taken that the cell phone should be unplugged and switched off and any cleaning should avoid all openings. Disinfection can be carried out using 70% isopropyl alcohol wipes or bleach-free disinfectant wipes. Bleach and homemade disinfectants containing substances such as vinegar should be avoided.

Contact with skin can be reduced by rotating sides. Hands-free, Bluetooth-enabled devices might be a better choice. Call time should be reduced to prevent phones heating up, and use of phones while charging should be avoided.

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Figure 1 Acne flare on left side of the face in a left hand-dominant patient.

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Rickettsialpox caused by *Rickettsia africae* in an elderly woman

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Rickettsialpox is an arthropod-borne infectious disease, which is usually caused by intracellular gram-negative bacteria of the genus *Rickettsia*, particularly *Rickettsia akari*.[1] It was first described in an urban outbreak in New York city in 1946, and thereafter named rickettsialpox because it resembles the appearance of chickenpox.[1] We report a case of rickettsialpox caused by a different species, *Rickettsia africae*.

A 76-year-old woman presented to the hospital with acute flu-like symptoms, including headache, chills, myalgia and a generalized rash in December 2019. The generalized papulovesicular (varicelliform) rash was heralded by a *tache noire* ('black spot') eschar on the left thigh (Fig. 1). The buccal mucous membranes, palms and soles were spared, but local lymphadenopathy in the left inguinal region was present. A week previously, the patient had travelled to South Africa for a safari tour. Given the travel history, the clinical findings of malaise and a varicelliform rash in combination with an eschar, her symptoms were highly suggestive of rickettsialpox. Hence, the patient received empirical treatment with doxycycline 100 mg twice daily for 10 days.

Laboratory studies revealed unspecific findings of leucopenia (4410 cells/μL; normal range 4600–9500 cells/μL), raised C-reactive protein (52.7 mg/L; < 5 mg/L) and slightly elevated liver enzymes [aspartate aminotransferase 79 U/L (10–35 U/L), alanine aminotransferase 75 U/L (10–35 U/L) and gamma glutamyl transferase 173 U/L (6–42 U/L)]. Hepatitis serology was negative.

Histological examination of a biopsy from a varicelliform lesion showed neutrophilic leucocytes and lymphocytes in perivascular aggregates of the upper corium. Fibrinoid swelling in endothelial layers and evidence of leucocytoclastic vasculitis of small vessels were identified (Fig. 2).

Blood samples initially showed negative results on indirect immunofluorescence tests for *Rickettsia conorii, R. akari, R. africae, Rickettsia typhi, Rickettsia prowazekii*