

## LETTER

# Increase and consequences of self-medication in dermatology during COVID-19 pandemic: An initial observation

Dear Editor,

COVID 19 has wreaked havoc worldwide. All over the world governments and health care workers are struggling to control the spread of infection and take care of infected people. Lockdown was imposed by various governments worldwide to prevent spread of infection.

But this has its own shortcomings. A lot of treatment facilities, single doctor clinics were closed depriving common people from timely medical assistance/advice when needed. This has encouraged self-medication. Even before the pandemic self-medication was in vogue throughout India,<sup>1-5</sup> as the doctor patient ratio is much lower (1:1456) than what is being recommended by WHO.<sup>6</sup>

The recent pandemic has escalated it further. We have considered self-medication as a practice of application or consumption of medication *without* any legitimate medical supervision and prescription by a qualified doctor.

A cross-sectional questionnaire based study was conducted during 1 June 2020 to 30 June 2020, at a tertiary care center in India. All patients aged 12 years and above, attending dermatology Out Patient Department (OPD) who gave informed consent for the study were included. The study tool was a structured questionnaire, which was construct validated by dermatologist unrelated to the study. Demographic data of patient, clinical features, information regarding past treatment, their understanding of disease, probable cause of self-medication were recorded at face-to-face interview using a structured questionnaire. In our study 100 consecutive patients presenting to dermatology OPD were questioned regarding self-medication during and before the lockdown period. Self-medication was identified in 48% of patients during lockdown and 15% before lockdown.

Both oral and topical steroids (35.42%) were the most commonly misused molecules followed by antifungals (31.25%) (Table 1). Topical steroids commonly used were either part of modified triple drug combination (mometasone with hydroquinone and tretinoin) or a combination with steroid, antibiotic, antifungal (clobetasole, clotrimazole, and neomycin) or steroid antibiotic combination (betamethasone with gentamicin). Amoxicillin with clavulanic acid and norfloxacin with tinidazole were commonly used antibiotics without prescription. Among antifungals, itraconazole was the most used drug. Along with other drugs 12 (25%) were also taking antihistaminics.

A lot of factors contribute to practice of self-medication. Fear of acquiring infection from health care centers and decreased accessibility to health care centers due to lockdown because of COVID 19 encouraged self-medication. People often self-medicated on the

basis of medicines prescribed for an illness in the past or on advice of friends and relatives or after consulting a pharmacist. Due to lax medical regulation, purchase of drugs that can only be obtained with prescription in developed countries are available over-the-counter in India. There is a lack of awareness regarding health and illness in the general population. Unwillingness of people to spend money on treatment due to poverty is also noted. A pharmacist is more accessible than a physician escalating the degree of over-the-counter dispensation of prescription medications.

Self-medication has been observed for conditions like allergies, headaches, heartburn, and neck pain even in developed countries like United States.<sup>7</sup> However in contrast to developing country like India, in developed countries such as United States and United Kingdom there is enforcement of laws which prohibit over the counter sales of medicines like antibiotics.<sup>8</sup>

Self-medication often lead to exacerbation of disease, cause various adverse effects (Figure 1) which at times can be life threatening, promote drug resistance along with financial loss and psychological

**TABLE 1** Self-medication by patients

Variables	Values (n)	Percentage (%)
Number of patients	48	—
Mean age (years)	36.94 ± 11.83	—
Male:Female	36:12	—
Drugs abused		
Steroids		
Oral steroids (dexamethasone/ betamethasone/ prednisolone)	5	10.42
Topical steroids	12	25
Antibiotics	8	16.67
Antifungals	15	31.25
Immunomodulators		
Methotrexate	1	2.08
Hydroxychloroquine	5	10.42
Others		
Dithranol	2	4.16
Antihistaminics (pheniramine maleate/cetirizine/ hydroxyzine)	12	25



**FIGURE 1** Some of the adverse effects of self-medication (A) Oral mucosa ulceration in methotrexate toxicity; (B) Tinea cruris involving shaft of penis; (C) Tinea faciei modified because of steroid use; (D) Irritant contact dermatitis; (E) Fixed drug rash; (F) Drug rash due to hydroxychloroquine

**TABLE 2** Adverse effects of self-medication

S. No	Age/gender	Clinical presentation	Relevant history	Medication used	Diagnosis
1	68 y/male	Complains of (c/o) ulceration of oral mucosa. Ulcerated plaque over trunk and upper and lower limbs	Patient is a known case of Psoriasis and was prescribed methotrexate. Following development of new lesions during lockdown patient took 10 mg of methotrexate daily for 14 d before coming to OPD.	Methotrexate tablet	Methotrexate toxicity (Figure 1A)
2	34 y/Male	c/o pruritic papular lesions over shaft of penis.	Patient applied a ointment on recommendation of friend for a itchy condition in groin. There was temporary relief following which lesions increased.	Clobetasol	Tinea cruris over shaft of penis (Figure 1B)
3	24 y/Male	c/o itching over face since 30 d	Patient had itching over cheeks for which he applied cream previously prescribed for lichen simplex chronicus	Betamethasone cream	Modified tinea faciei (Figure 1C)
4	23 y/Male	c/o itching and burning sensation in erythematous lesion present over trunk and back	Patient applied ointment obtained as an over-the-counter medicine for hypopigmented lesions over trunk and back	Dithranol ointment	Irritant Contact Dermatitis with Tinea versicolor (Figure 1D)
5	43 y/Female	c/o vesicle over a erythematous base since 2 d	Took over-counter medicine for pain in abdomen.	Norfloxacin and Tinidazole (fixed dose combination)	Fixed drug rash (Bullous) (Figure 1E)
6	19 y/Female	c/o pruritic, erythematous, morbilliform rash all over the body.	Took one tablet of hydroxychloroquine as prophylaxis against Covid 19	Hydroxy-chloroquine	Drug induced rash due to hydroxychloroquine (Figure 1F)

stress to patient and family members. Some of the cases with experienced side effects or exacerbation of disease following self-medication are given in Table 2.


A multipronged approach is necessary to put a leash on this practice of self-medication. Follow-up of patients using tele-dermatology during lockdown can be helpful.<sup>9</sup> We suggest that strict implementation of laws which prohibit over-the-counter sales of scheduled drugs along with health awareness campaign for public are needed. Television commercials promoting medicine for some of the common skin disorders should be discouraged.<sup>10</sup>

#### CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

#### DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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