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# Effects of COVID-19 pandemic lockdown on medical advice seeking and medication practices of home-bound non-COVID patients

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## Abstract:

**BACKGROUND:** Many countries are implementing measures for social distancing to contain the spread of the coronavirus disease 2019 (COVID-19) pandemic. The Indian government also issued an order for complete lockdown of the country, with all the nonessential services, including most of the services for nonemergency health issues, being temporarily suspended.

**OBJECTIVES:** This study aimed to understand the effect of pandemic lockdown on medical advice-seeking behavior and the medication practices of the non-COVID Indian patients confined to homes, who would have normally visited the outpatient departments (OPDs) for medical advice.

**MATERIALS AND METHODS:** It was a questionnaire-based, cross-sectional study conducted online during the lockdown period. The questions dealt with medical advice-related practices, self-medication, the sources of medical advice, and the need to visit emergency department. Evaluation of data was done as for descriptive studies.

**RESULTS:** A total of 106 people (34%) out of the 312 participants had either old or new health problems. Ninety-six of such people (90.5%) tried to manage their sufferings by either continuing the drugs prescribed earlier or by making phone calls to doctors along with taking the help of home remedies, if needed. Ten (9.5%) of the symptomatic participants did not consult any doctor waiting for natural course of relief. None of the participants practiced self-medication of modern medicine therapy. Only one participant (of the total 312) took hydroxychloroquine as self-medication for assumed prophylactic therapy against the COVID-19 infection.

**CONCLUSION:** Most of the people with medical conditions, confined at home due to national lockdown, are coping with their problems without any irrational self-medication with modern medicines or any misuse of prophylactic therapy against the COVID infection. This seemingly positive trend may also have been due to the strict enforcement of the lockdown rules by the law enforcement agencies.

## Keywords:

COVID-19, medical advice, self-medication

## Introduction

A novel coronavirus named severe acute respiratory syndrome-coronavirus-2 which emerged in Wuhan City, Hubei province in China in December 2019 has spread rapidly to most regions of the world killing thousands of people.<sup>[1]</sup> The current

outbreak termed coronavirus disease 2019 (COVID-19) was officially declared a pandemic by the World Health Organization on March 11, 2020.<sup>[2]</sup> With no effective drug therapy available for the COVID-19 infection at present and vaccine development taking its own time, social distancing has emerged as a logical practice to prevent the spread of the disease. Many countries have been

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locked down partially or completely in an urgent effort to contain the spread. The Indian government issued an order for complete lockdown of the country for a period of 21 days with effect from March 25, 2020. The lockdown has now been further extended till May 3, 2020.<sup>[3]</sup> In this unique global pandemic situation, the services for non-emergency health issues, usually taken care of by outpatient department (OPD) consultations and elective surgeries, have been mostly suspended. Majority of the private dispensaries are also closed. The chemist shops are open as part of the essential services.<sup>[3]</sup>

The OPD services are the primary portal for an individual to seek health care for diagnosis or treatment of most of the symptoms and for follow-up treatment of chronic illnesses. According to a report by the Ministry of Statistics and Program Implementation, Government of India, about 9% of rural population and 12% of urban population goes to hospitals or doctors for consultation during an average 15-day reference period.<sup>[4]</sup> This suggests that just in the initial lockdown period of 21 days due to COVID-19, more than 15 million patients would have visited the health-care centers for their health problems (considering the total population estimate of the country in April, 2020, to be more than 1.37 billion).<sup>[5]</sup> These millions of people who would have otherwise visited the health-care facilities in normal times, are coping with their morbidities, during this phase of temporary suspension of all non-essential OPD services and elective surgical procedures, to support the nation and the world in its fight against the pandemic spread.

It would be very important to know about the effect of this unprecedented crisis on medical advice-seeking behavior and the medication practices being adopted by such non-COVID patients who would have normally visited OPDs of hospitals or private clinics but are currently confined at home. No such study in the country has been carried out earlier, to explore the effects of any prolonged emergency lockdown on these aspects, as the background situation of complete confinement at home is being faced by the current population for the first time in their life.

## Materials and Methods

### Objectives

The objective was to understand the effect of pandemic lockdown on medical advice-seeking behavior and the medication practices of the non-COVID Indian patients confined to homes, who would have normally visited the OPDs or health-care professionals for medical advice.

### Methodology

It was a descriptive cross-sectional study based on a questionnaire survey assessing a representative

sample of the adult population confined at home during the national lockdown due to the COVID-19 pandemic. Prior approval for the study was taken from the institutional ethical committee (ref. no. SU/SMSandR/76-A/2020/07). The participation in the study was voluntary, and an informed consent was obtained from all the participants before participation in the study. A participant information sheet was attached at the beginning of the questionnaire, and the format of the questionnaire allowed only those to proceed with answering the questions who ticked on agreeing to take part voluntarily in the study.

### Study design

Collection of data was done by a survey conducted with a semi-structured questionnaire administered online. The questionnaire was framed to understand the practices adopted by the patients to deal with their health problems such as medication practices related to prescription including self-medication, the sources of medical advice, the need to visit emergency department, and their interaction with the chemists, if any. Due to the national lockdown, the questionnaire was circulated on the mail and WhatsApp groups of friends and acquaintances of the authors with a request to further disseminate it, to include as many participants as possible.

### Inclusion criteria

Individuals above the age of 18 years who could respond to the questionnaire on phone or mail within the territory of India under lockdown since March 25, 2020, were included in the study.

### Exclusion criteria

COVID-19 patients, COVID-19 suspects in quarantine, and contacts of COVID cases or suspects were excluded from the study.

### Statistics

The statistical analysis to relate the different variables was not applicable to the final data obtained, so the assessment and interpretation was based on the number and percentage of different types of responses.

## Results

The questionnaire was administered to 314 people and 312 (99.3%) of these responded by participating voluntarily. The mean age of the participants was 33.8 years (the youngest participant was of the age 18 years and the oldest participant was 80 years old). The total number of male participants was 170 (54.5%) and female participants was 142 (45.5%).

Out of the 312 participants, 106 (34%) people said that either they had some previous medical condition before

the lockdown started or they had some new health problem-related symptoms [Table 1]. Table 2 depicts the medication practices adopted by 83 (78.3%) of these 106 participants who were already on some drug therapy before the lockdown. Health problems were of recent onset in 23 (21.7%) of these symptomatic participants. Out of these patients who were facing new-onset problems, 13 people (56.5%) took medications after consulting the doctors. Ten (43.5%) out of these 23 people with new-onset health issues did not take any modern medicine for their complaints and waited for natural recovery, taking help of natural remedies, if necessary.

Table 3 shows the details of medication use by the participants to treat any new-onset health problems or any assumed prophylactic therapy against the COVID-19 infection. Sixteen of the symptomatic patients (15.1%) were supposed to meet their doctors for follow-up. Table 4 shows the practices adopted by these patients who had the scheduled follow-up visits on dates that fell during the lockdown period.

## Discussion

The present study is an effort to understand the pattern of medical advice-seeking behavior and the various medication practices adopted by routine patients to fulfill the health-care needs of themselves and their family members in this rare national lockdown crisis period. The study also tried to understand the risks for patients due to misinformation and irrational practices including self-medication in these desperate times. To the best of our knowledge, no such study has yet been done anywhere, and this study attempted to highlight relevant findings specific to this pandemic situation.

Out of the 312 responders, a total of 106 people would have sought medical opinion for their past or new-onset problems as the national lockdown period due to COVID-19 touched 1-month mark in India. Most of these participants stayed at home despite their health problems. Only two participants went to the routine OPD to meet the doctors in person. One wanted to get his eyes examined after a course of topical antibiotics for bacterial conjunctivitis. Another person took his lab reports for follow-up to his doctor at his home after calling him. Only four participants in the study needed to visit the emergency with new-onset symptoms. Of these four, three were suffering from fever and throat pain. It seems that the similarity of their symptoms to that of COVID infection symptoms, prompted them to take the matter seriously and they visited the emergency to rule out the COVID possibility. They were finally diagnosed and treated as COVID-negative patients with mild upper respiratory tract infection. One of the responders had to

**Table 1: Medical problems in the study participants during lockdown (n=312)**

Details of participants	Number of participants
Participants with preexisting conditions (before lockdown) and new-onset symptoms (during lockdown)	106
Participants taking medication for previous conditions	83
Participants taking medication for new symptoms	13
Participants not taking medication for new-onset symptoms	10

**Table 2: Health advice-seeking practices in the participants already on medications for preexisting conditions (n=83)**

Health advice-seeking practices	Number of participants
Continue to take medication as prescribed earlier	66
Consulted their doctor over phone	11
Visited their doctors personally after consulting them over phone	2
Stopped the medications on their own after completing the prescribed regimen	4

**Table 3: Patients started on any new therapy during the lockdown**

Medication use	Number of participants
Due to new-onset problems	13
Advised by their doctor after consultation over phone	9
Advised by the doctor when they visited the emergency department	4
Prophylactic therapy with the perception to prevent COVID-19 infection	4
Hydroxychloroquine (self-medication)	1
Vitamin C tablets on their own	2

COVID-19=Coronavirus disease 2019

**Table 4: Scheduled follow-up visits which could not take place due to lockdown (n=16)**

Reason for scheduled follow-up visits	Number of participants
Dose adjustment of new therapy after examination	1
Stoppage of medication after examination	2
Showing lab reports for therapeutic modifications, if any	3
To Review the treatment as not much relief	2
Routine follow-up without any specific objective	6

visit the emergency department due to fracture by fall and was treated for the same.

These results reflect that in the presence of the bigger concern engulfing the minds of people related to the pandemic and the dangers of getting infected by going outside, people have mostly been carrying out or have been forced to carryout rational medication practices. Majority of the participants with medical conditions managed their bearable sufferings by continuing the drugs prescribed earlier or by making phone calls to

doctors, if needed. The visit outside home to seek medical advice had only been due to a real emergency (fracture) or perceived emergency (suspected COVID). For all other symptoms which participants were able to manage or bear for the time being, no irresponsible or irrational self-medication of modern medicine was practiced. None of the participants tried to self-medicate themselves by searching the net for answers or by buying the drugs without prescriptions at a chemist shop. Ten patients who could not contact any doctor over phone tried home remedies and waited for natural relief of their symptoms instead of taking any drug themselves. Though the study did not explore this aspect any further, it would have been interesting to know the details of the types of home remedies for different health problems, which people have started to use, in an effort to buy time before medical services come back to normal.

In normal times, self-medication and misuse of modern medicines is a very common global problem.<sup>[6]</sup> The problem is even more in developing countries where the drugs which should be available only with prescription are easily available as over-the-counter drugs. Studies report that in India, the prevalence of self-medication in patients ranges from 30% to as high as 70%.<sup>[7]</sup> However, the surprising absence of any such practice in this study could not only have been due to the seemingly larger concern of the pandemic taking over other physical concerns but it could also have been due to strict enforcement of the lockdown by the police agencies verifying the seriousness of the need of people venturing out. The provisions of imposing heavy fines and even a jail-term as punishment to defaulters, to ensure the compliance of lockdown rules strictly, may have worked as a deterrent for patients with mild-to-moderate morbidities seeking to go out to a chemist shop unless they had proper prescription.<sup>[8]</sup>

Hydroxychloroquine is one of the drugs being tried in the prophylaxis and management of COVID infection.<sup>[9]</sup> As per the Government of India advisory to prevent misuse of the drug as a prophylactic agent, it has been recommended to be used only by health-care professionals in the hospital taking care of suspected or confirmed COVID-19 cases or by contacts of confirmed cases.<sup>[10]</sup> In the present study, except for one participant, no one was taking hydroxychloroquine or any other modern medicine for prophylaxis against COVID infection. Two of the participants were taking Vitamin C tablets to boost their immunity. Such low prevalence of misuse of a drug for prophylaxis was a positive finding in this study, from the point of view of medication practices, though it could also have been due to the lockdown and unavailability of hydroxychloroquine in most chemist shops.<sup>[11]</sup>

Because the study included English-speaking urban educated participants, the reflection of the people of poor socio-economic background may be different. Those who were getting their prescription refills at government-funded centers may face the unaffordability of medication adherence. The socioeconomic gap together with poor access to quality health care has become even more glaring in these times. Many people do not have proper internet connection, so tele-consultation would be a challenge to them. Apart from the socioeconomic division highlighting the poor access to health care or advice, there is an emergence of stress, fear, and anxiety disorders due to the pandemic across the population irrespective of the social status.<sup>[12]</sup>

There is a need to spread awareness in the patients with chronic diseases, especially in the underprivileged population, about the importance of adherence to their medications.<sup>[13]</sup> Though the public resources at present are mainly focused on overcoming the herculean task of containing the COVID pandemic and looking for efficacious therapies, it would be prudent to remember the huge patient population of so many other diseases, especially of the chronic diseases, which need regular monitoring, advice, and medications. Some more proactive measures to make the facilities for consultation or easing up the process to refill the prescriptions for such patients will help allay the anxiety in general and give the required impetus to health promotion in the community.

In response to the questions, most participants added that they were coping with the situation with a hope that the pandemic would be over soon and they will then be able to avail the medical services. Belief of most of the participants that their nonserious medical issues were not important as compared to the larger interest of the safety and survival of everyone in the fight against the pandemic speaks of both the responsibility and concern of a common person during this unprecedented crisis.

## Conclusion

Most of the people with medical conditions, confined at home due to the national lockdown to enforce social distancing during the current COVID pandemic, are managing their symptoms by continuing with their prescription advices, taking help of home remedies, and making phone calls to doctors, if needed, without any irrational medication practices for their prevailing conditions, or any misuse of prophylactic therapy against the COVID infection. This apparently positive trend may also have been due to strict enforcement of the lockdown rules by the law enforcement agencies.

## Limitations

As the questionnaire was in English and was administered through the known friends and contacts of the authors,



the sample of 312 participants included in the study consisted of English-speaking educated urban people and may not have been representative of the uneducated people of poor socioeconomic status.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

## References

1. Munster VJ, Koopmans M, van Doremalen N, van Riel D, de Wit E. A novel coronavirus emerging in China – Key questions for impact assessment. *N Engl J Med* 2020;382:692-94.
2. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomed* 2020;91:157-160.
3. MHA Issues Consolidated Revised Guidelines for the Containment of COVID-19 epidemic in the Country. Available from: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1614620>. [Last accessed on 2020 Apr 20].
4. Health in India. Available from: [http://mospi.nic.in/sites/default/files/publication\\_reports/nss\\_rep574.pdf](http://mospi.nic.in/sites/default/files/publication_reports/nss_rep574.pdf). [Last accessed on 2020 Apr 20].
5. India Population. Available from: <https://www.worldometers.info/world-population/india-population/>. [Last accessed on 2020 Apr 20].
6. Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharm* 2013;5:19-23.
7. Simon AK, Rao A, Rajesh G, Shenoy R, Pai MB. Trends in self-medication for dental conditions among patients attending oral health outreach programs in coastal Karnataka, India. *Indian J Pharmacol* 2015;47:524-9.
8. Guidelines on the Measures to be Taken by Ministries/ Departments of Government of India, State/Union Territory Governments and State/Union Territory Authorities for containment of COVID-19 Epidemic in the Country. Available from: [https://www.mohfw.gov.in/pdf/Annexure\\_MHA.pdf](https://www.mohfw.gov.in/pdf/Annexure_MHA.pdf). [Last accessed on 2020 Apr 20].
9. Singh AK, Singh A, Shaikh A, Singh R, Misra A. Chloroquine and hydroxychloroquine in the treatment of COVID-19 with or without diabetes: A systematic search and a narrative review with a special reference to India and other developing countries. *Diabetes Metab Syndr* 2020;14:241-6. [Last accessed on 2020 Apr 20].
10. Advisory on the use of Hydroxy-Chloroquine as Prophylaxis for SARS-CoV-2 infection. Available from: <https://www.mohfw.gov.in/pdf/AdvisoryontheuseofHydroxychloroquinasprophylaxisforSARSCoV2infection.pdf>. [Last accessed on 2020 Apr 24].
11. Sudden Hydroxy-Chloroquine Shortage is Forcing Indian Doctors to make tough Choices. Available from: [https://www.huffingtonpost.in/entry/hydroxychloroquine-shortage-covid-coronavirus\\_in\\_5e8f4b6ac5b6b371812d5b02](https://www.huffingtonpost.in/entry/hydroxychloroquine-shortage-covid-coronavirus_in_5e8f4b6ac5b6b371812d5b02). [Last accessed on 2020 Apr 24].
12. Kretchy IA, Asiedu-Danso M, Kretchy JP. Medication management and adherence during the COVID-19 pandemic: Perspectives and experiences from low-and middle-income countries. *Res Social Adm Pharm* 2020. pii: S1551-7411(20)30332-6.
13. Kripalani S, Yao X, Haynes RB. Interventions to enhance medication adherence in chronic medical conditions: A systematic review. *Arch Intern Med* 2007;167:540-9.