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Knowledge and Awareness Towards Self-Medication Practice and its Stock During the Coronavirus Disease (COVID-19) Pandemic among the Indian Public: A Web- Based Cross-Sectional Survey.

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ABSTRACT

Generally, most of the Indian households keep stock of some standard Over the Counter medicines that help to cure minor and seasonal ailments including headache, running nose, acidity, gastrointestinal problems. During COVID-19 times the use of such medicines has increased, which has helped to reduce the load on doctors and decongest hospitals. This web-based survey helps to understand the types of medications in stock and the self-medication practices during COVID 19. A cross-sectional, web-based survey was conducted during June 2020. A 9-item self-administered questionnaire was developed, validated, and distributed using Google Forms through social media networks. The results were obtained online, and they were statistically analyzed. A total of 1704 individuals participate in the survey from various age groups from ranging from 18 years to 55 years. Out of which 50.4% were male participant and 49.6 % were female participants. In the survey, it is observed that antacid and analgesic were mostly available in stock. About 45.3% of participants took self-medication for quick relief while 85% agreed that their pharmacist explains the medication during purchasing. However, the survey also revealed that 91% of pharmacists asking for the symptoms while purchasing OTC medications. In the COVID-19 pandemic, Indian pharmacists are playing an important role by helping and counseling the patients at the pharmacy itself in case of minor ailments to avoid reaching the doctors in these difficult times. Also spreading knowledge about OTC and self-medication along with its adverse effects to the people.

Keywords: OTC, COVID-19, self-medication, Pharmacists

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INTRODUCTION

Corona virus disease (COVID-19) originated in December 2019 from Wuhan city of Hubei Province in China is caused by a novel corona virus. This virus belongs to the Coronaviridae family in the Nidovirales order and appears just like spiked rings when observed through an electron microscope⁽¹⁴⁾. Four corona viruses namely HKU1, NL63, 229E and OC43 have been in circulation in humans, and generally cause mild respiratory disease⁽¹²⁾. Corona viruses are important human and animal pathogens⁽¹³⁾. The surface shows various spikes, which are helpful to attack and bind living cells. These are the viruses causing infection or symptom like the simple common cold, fatigue, muscle pain, sneezing, sore throat, high fever, respiratory problems, etc. Also, it may lead to some severe - acute respiratory syndrome coronavirus and Middle East respiratory syndrome coronavirus infections: [1,2]. Although COVID-19 directly invades lungs, it also involves the nervous system[15]. Patients also exhibited symptoms of viral pneumonia including fever, difficulty breathing, and bilateral lung infiltration in the most severe cases. Anxiety was also one of the measure factors caused during pandemic. While elders and individuals with comorbid conditions often suffer a serious fate, most of the infected remain asymptomatic or suffer mild disease [9].The WHO, on 30 January 2020_officially declared COVID-19 epidemic as a public health emergency of international concern [3].

The symptoms of COVID-19 may arise within 2 to 14 days after the infection [1].The elderly and people with underlying diseases are susceptible to infection and prone to serious outcomes, which may be associated with ARDS. Under such a situation, the clinical test for COVID-19 is mandatory[3]. There is no precise treatment for this condition. However, taking preventive measures and supporting healthcare may provide relief in the outbreak of COVID-19. Apart from supportive care, no specific treatment has been established for COVID-19 [16]. It is a collaborative approach from the government as well as public support [4]. Some of the preventive medications paracetamol for fever, Vitamin C and B3 Complex and other ayurvedic kadhas along with home-remedies and taking hot steam. Also, there is need to take preventive measures due to higher anxiety [8]. The need to care for patients with emergency presentation still continues during a pandemic[10]. Pregnant women and their fetuses represent a high-risk population during infectious disease outbreaks[10]. Owing to the severity, of the disease, there occurred a panic situation among the population throughout the world and there were episodes of lockdown as well. In this survey, we assessed the availability of medications at the home of people staying in Pimpri, Pune (India) during the lockdown phase. Characterizing the morbidity rate of COVID-19 is challenging because case detection in the early stages of an outbreak is biased toward severe disease [17]. During the initial phase of the Covid-19 outbreak, the diagnosis of the disease was complicated by the diversity in symptoms and imaging findings and in the severity of disease at the time of presentation[18]. The outbreak of COVID-19 pandemic in India has triggered the discussions of how pharmacists have been playing an important role by advising and counseling the patients at the pharmacy itself in case of minor ailments in order to avoid reaching the doctors in these difficult times. In sight of the rapid spread of Covid-19 around the world, early diagnosis and quarantine is important to curb the spread of Covid-19 and intensive treatments in early stage is to prevent patients away from critical condition [19].

MATERIALS AND METHODS

Study design

A cross-sectional, web-based survey was conducted during June 2020 by Dr. D Y Patil Institute of Pharmaceutical Sciences and Research to understand the types of medications in stock and OTC/self-medication practices Indian households follow.

Development and Validation of the questionnaire

A 9-item study questionnaire was built-up in the English language using fact sheets, course materials, information leaflets and booklets, to obtain the information regarding types of OTC medications and the self-medication practices which are followed by Indian households.The study questionnaire contains 9 questions based

on knowledge of disease and medication which they were taking, self-medication and awareness about –the habit of taking self-medication, reasons for taking self-medication, information about the use of medication, knowledge about alternative brands and expiry date, etc.

The questionnaire was validated by subject experts using appearance and content validation methods. Also, the questionnaire was checked for precision, appropriateness of the questions.

Sample size

The survey included people from various age groups ranging from 18 years to 55 years from Pune. A total number of 1704 of people participated in this survey.

Distribution of the questionnaire

The final revised questionnaire was designed using Google forms [4] and was post, advertise, and shared on social media platforms such as Facebook, WhatsApp, Telegram, and LinkedIn. The community people were requested to take part in the survey by completing the questionnaire without any time restrictions. The participant’s responses or submissions were collected using the ‘Limit to one response’ feature of Google forms.

Ethical considerations

The intention of the survey was explained to potential participants, who were requested to provide consent of voluntary keenness before their participation. All the steps performed in this study involving human participants were in adherence to the ethics of the 1964 Helsinki declaration. This study was conducted and reported according to the (CHERRIES) guidelines [5]

Statistical analysis

Data were recorded in Microsoft Excel spreadsheets (Microsoft office 2010) and cross-checked for accuracy. P-values of < 0.05 were examined for statistical significance.

RESULTS AND DISCUSSION

The survey was completed by 100% of the participants. The survey was conducted on varied age groups ranging from 18 years to 55 years. A total of 1704 respondents participated in the survey, both the genders almost equally participated, a male participant was 50.4% and the female participant was 49.6%.

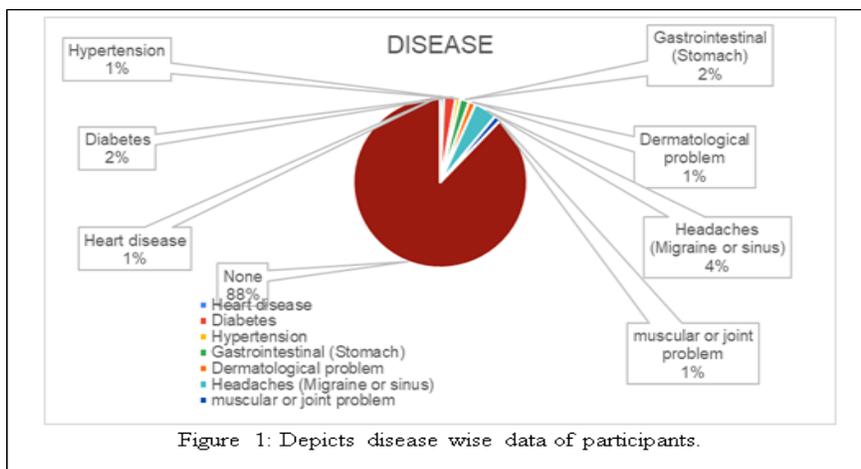


Figure1 depicts that The demographics of data collected indicated that amongst the participants 86.1% (1467) were not suffering from any disease, 4.2% (71) were suffering from headache, 2.2% (37) of them were suffering from Diabetes, 2.1% (35) of them suffered from hypertension, 1.6% (28) had gastrointestinal problems while 1.2% (20) muscular pains, 0.6% (11) heart disease, 1.2% (21) dermatological problems.

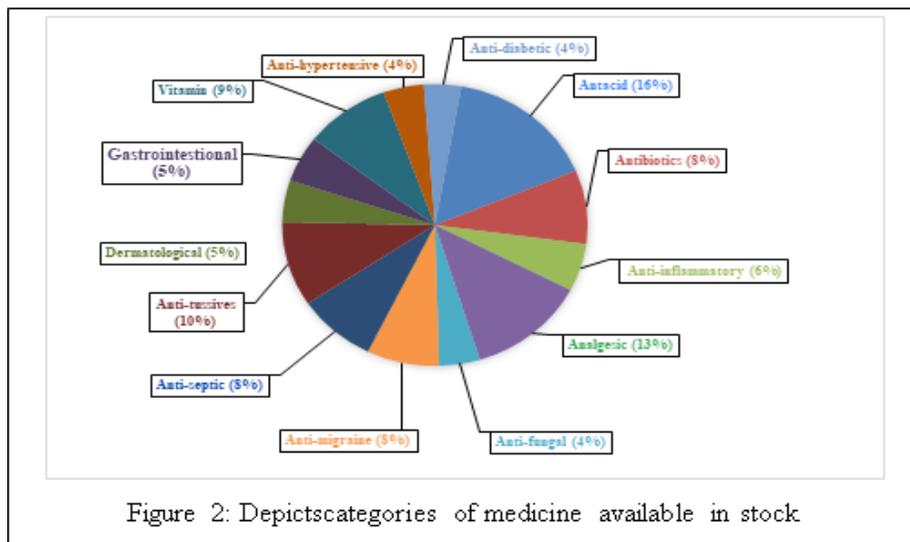


Figure2 depicts that categories of medicines available in the stock revealed the following data:16% Antacid, 13% Analgesic, 10% Antitussives, 9% Vitamins, 8% Antibiotics, 8% Antiseptic, 8% Ant migraine, 6% Anti-inflammatory, 5% Gastrointestinal, 5% Dermatological, 4% Antihypertensive, 4% Antifungal, 4% Antidiabetic.

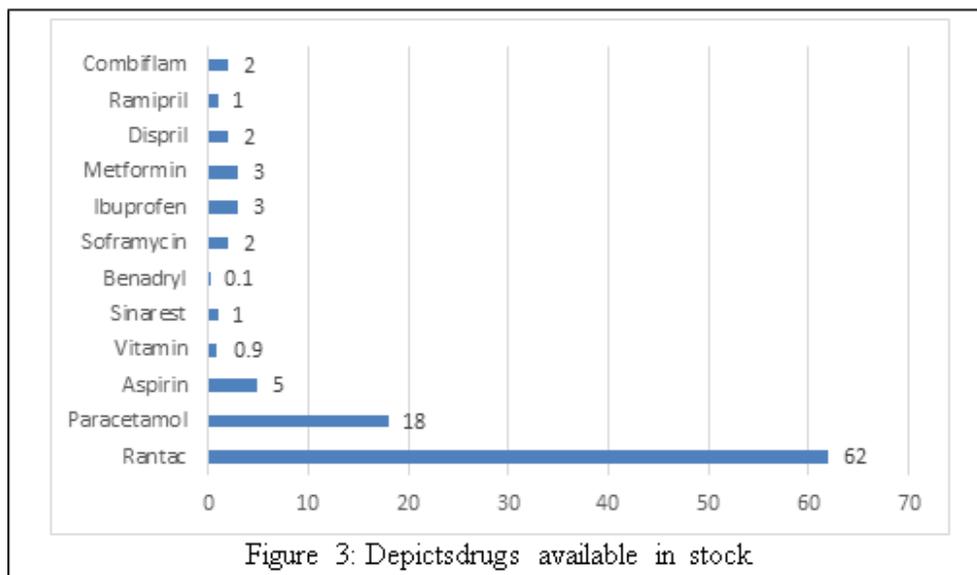


Figure3 depicts that the drugs available in stock were Rantac 62% which was highest in use, Paracetamol 18%, Aspirin 5%, Vitamins 0.9%, Sinarest 1%, Benadryl 0.1%, Soframycin 2%, Ibuprofen 3%, Metformin3%, Dispril 2%, Ramipril 1%, Combiflam 2%.

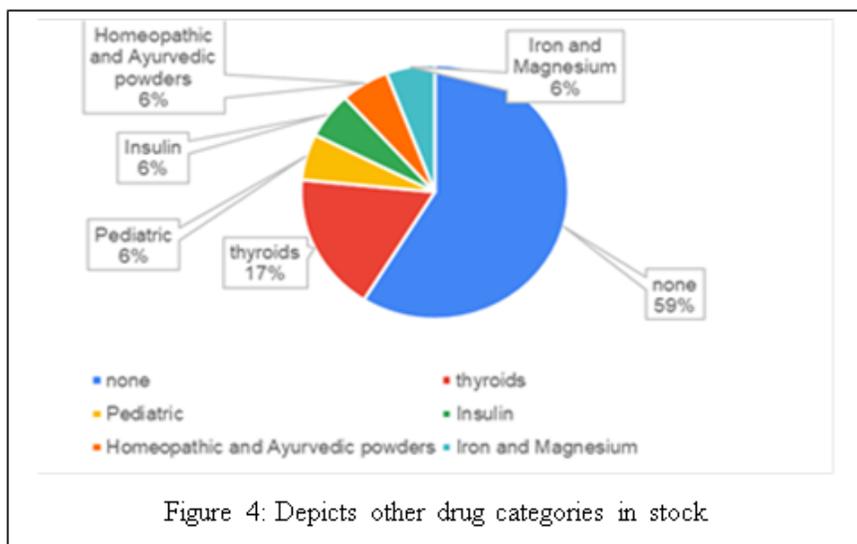


Figure4 depicts that in addition to the above-mentioned drug categories, respondents were also asked to mention other drug categories normally available in stock for which 1003 respondents responded none, 300 revealed thyroids while each 100 participants mentioned pediatric, insulin, homeopathic, ayurvedic powders, iron and magnesium respectively.

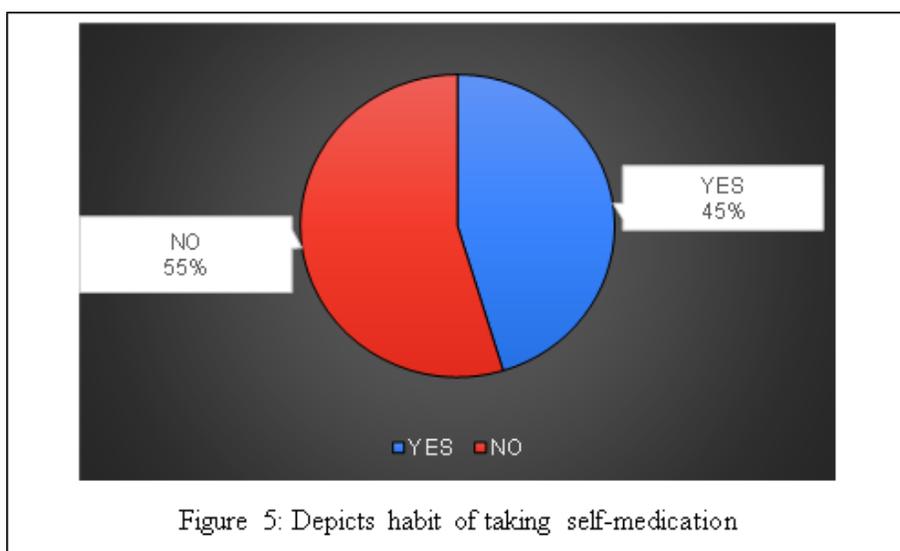


Figure5 depicts that 45.3% (772) were practicing self-medication while 54.7% (992) did not.

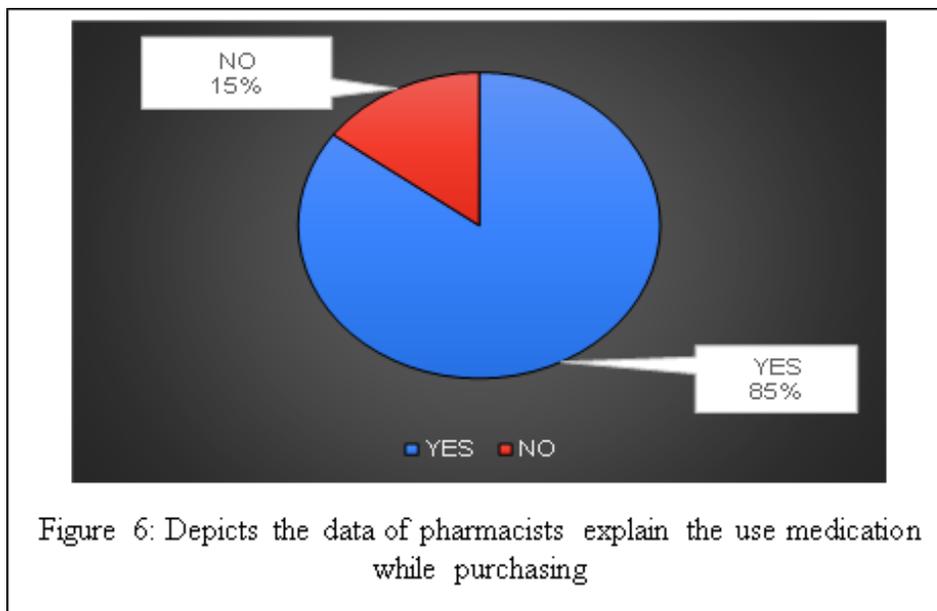


Figure6 depicts that 85.1% (1450) mentioned that their pharmacist explain the medication while purchasing, where as 14.9% (254) said no.

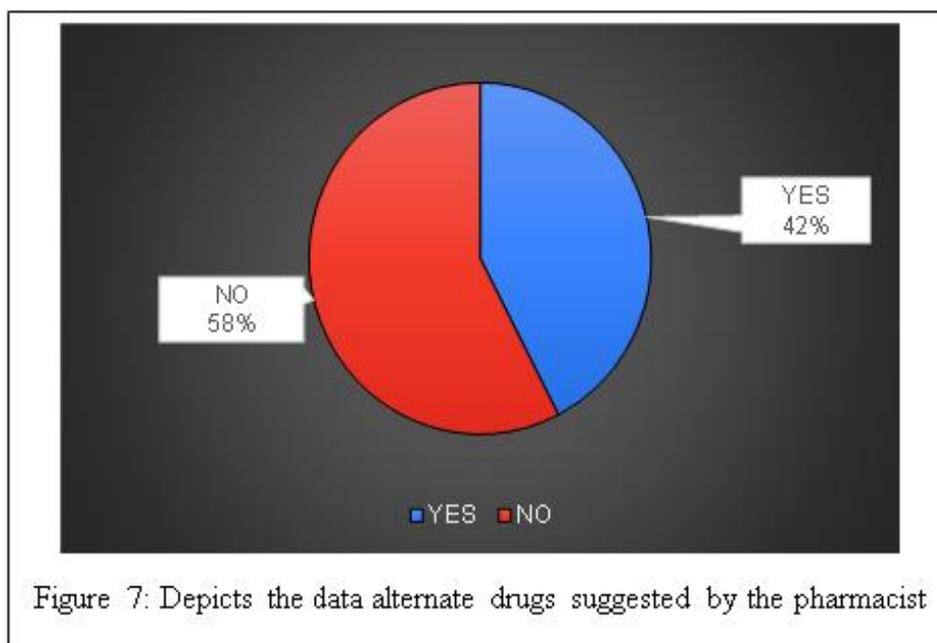


Figure7 depicts that 42.4% (723) people purchase alternate drugs suggested by the pharmacist against the one prescribed by the physicians whereas 57.6% (981) people insist on physician prescribed drugs.

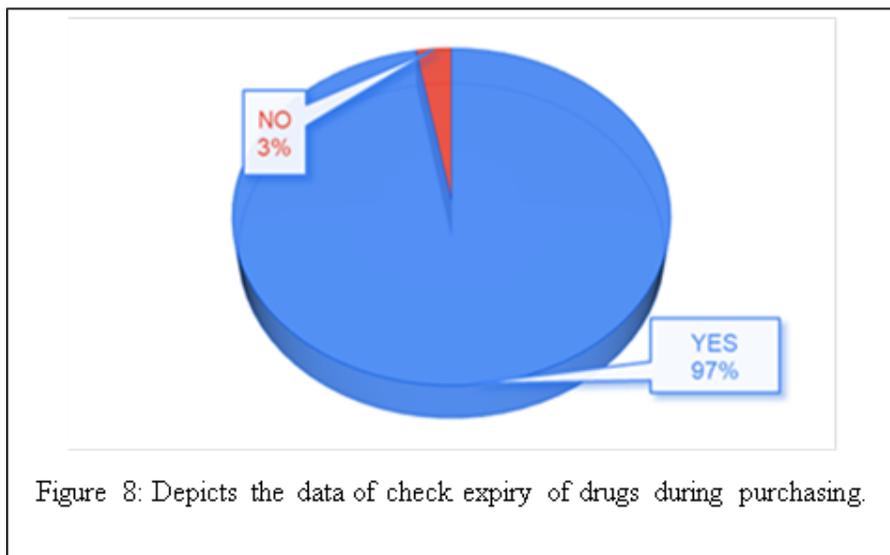


Figure8 depicts that the survey revealed an important aspect of checking the expiry of drugs while buying them with 97.1% (1655) respondents checking the same while only 2.9% (49) missed the same.

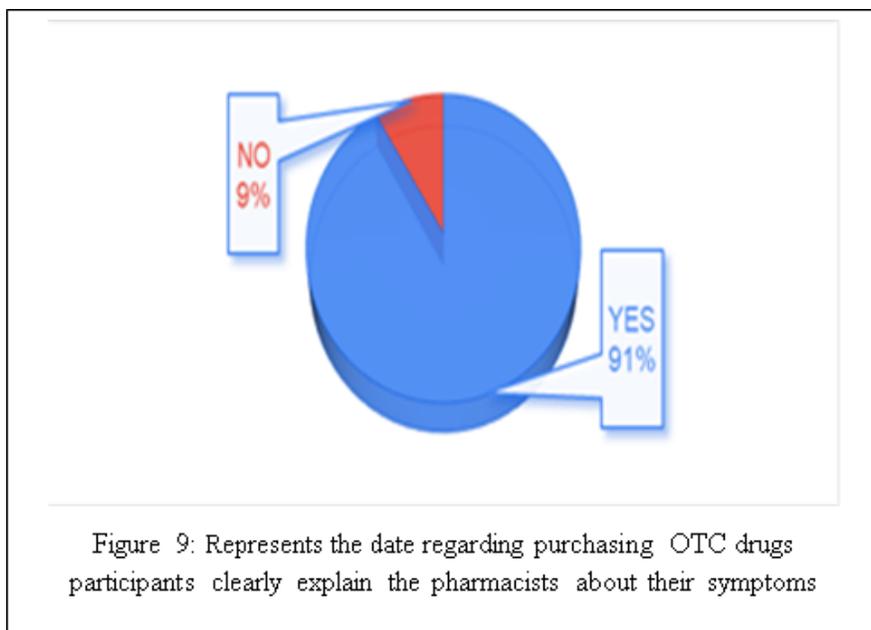


Figure9 depicts that though OTC purchasing is not recommended, it is very important for pharmacists to understand all the symptoms if people who come to buy OTC drug without prescription in case of emergencies. The survey authenticated this responsibility of pharmacist with 91% (1550) people claiming pharmacist clearly asking for the symptoms (and patients also explaining their symptoms) while purchasing OTC drugs but 9% (154) did not agree to the same.

CONCLUSION

Our survey study concludes that pharmacist is playing their role efficiently by interacting with the patients; explaining the medication as well as suggesting alternate drugs to them. However, self-medication is

widely prevalent among the Indian population. The study shows that antacid and analgesic are most commonly consumed followed by antibiotics and anti-inflammatory medicines. Participants are aware of expiry dates but are not aware of its side effects and drug interactions. Hence, pharmacists and doctors should make an effort to educate the public regarding self-medication.

Study Limitations

There are certain limitations while interpreting the data of this study. Firstly, this was a cross-sectional web-based survey, causal inferences cannot be made, and chances of information bias may exist. Secondly, the questionnaire was self-administered, and therefore the result was depending upon the self-reported data. Also, it is quite difficult to predict and understand whether the participants completed the survey honestly. Lastly, as this was an internet-based online survey, it might not capture the responses from those regions with less/ no access to social media. This may produce demographic, sampling, and coverage selection bias, especially as participants were mostly from a relatively young, educated, professional, and internet-active population.

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COVID-19	Coronavirus Disease 2019
OTC	Over the Counter
SARS-CoV	severe -acute respiratory syndrome coronavirus
MERS-CoV	Middle East respiratory syndrome coronavirus
WHO	World Health Organization
ARDS	acute respiratory distress syndrome
CHERRIES	Checklist for Reporting Results of Internet E-Surveys
P-value	Probability value

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