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Analyses of Self-Medication After COVID-19: Prevalence of Risky Practice and Its Associated Factors in Pharmacy Outlets

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ABSTRACT

Self-medication is use of medication to treat symptoms or continue use of prescribed medication for chronic disease or recurrent disease. self-medication increased since covid 19. especially antibiotics this cause significant medication related problems to the population. study conducted in 20- 25 selected pharmacy outlets. Study performed by using a questionnaire. Since the study is in a community with pharmacy outlets. In our study, A total of 1013 members were surveyed during the process where in ,1008 of them were found to be practicing self-medication{99.5%}, And 129 subjects practicing self-Medication were suffering from asthma {12.7%}, And 201 people taking antibiotics as Self-medication without knowing what they are consuming {19.8%},166 people taking antibiotics as Self Medication knowing what they are consuming {16.3%},397 people have had experienced ADR'S by taking Self Medication{39%},617 people were taking Self Medication along for COVID 19 like symptoms{61%},and 390 people taking antifungals as a self-medication {38.4%}. The study identifies the majority of its respondents to be taking self-medication. Stringent implementation of law and increasing community awareness regarding the respiratory ill effects of self-medication is therefore necessary. It is a significant health issue especially after the pandemic times, with high consumption reported as a prevention or treating symptoms of COVID-19. Pharmacies were the most general source of knowledge for medication use. However, our role to educate public regarding drugs and drugs related problems (ADR, side effects,) by usage of OTC along with self-medication.

***Keywords*:** COVID-19, SARS (severe acute respiratory syndrome), Self-medication, OTC (over the counter). ADR (adverse Drug reactions).

INTRODUCTION

Self-medication refers to the act of administering medication to oneself or a family member or receiving consultation from a medical professional for a minor illness or self-diagnosed condition without a doctor's prescription [1]. In 2019, coronaviruses caused more serious diseases, including acute respiratory syndrome (SARS), Middle East respiratory syndrome, MERS CoV, and COVID-19. On January 30, 2020, the World Health Organization (WHO) declared a public health emergency due to the emergence of the COVID-19 pandemic, with 20 million cases and 700,000 deaths worldwide in six months. has been reported [3]. This coronavirus pandemic may cause people fear and stress, which may lead them to take over-the-counter medications [2]. Because of this, hydroxychloroquine and ivermectin may be

used clinically for mild COVID-19 cases, and hydroxychloroquine and azithromycin or chloroquine phosphate and ivermectin may be used clinically for moderate to severe COVID-19 cases [4]. The use of these drugs for self-medication leads to serious drug-related problems, drug interactions, overdose, toxicity and, in case of antibiotics, bacterial resistance among the population [5]. Since the current situation emerged, researchers have been collecting data from medical professionals about the medications the public is using to prevent and treat COVID-19 through self-treatment. However, results vary across countries, cultures, and communities, and the data has some pitfalls. This research cannot be overemphasized, as it helps develop health education plans and inform the public about safe work practices [6]. However, due to the pandemic, there is a need to standardize available data on self-care to increase its use. Systematic research helps develop and translate knowledge, which is important for public health education and scientific leadership [7,8]. However, we aimed to systematically collect available data on self-care practices for the treatment and prevention of COVID-19. We also educate patients through pamphlets about the methods and effects of self-treatment.

MATERIALS & METHODS

Study design and setting

A descriptive cross-sectional study was conducted in 20-25 selected pharmacies. Bangalore residents were the original population of this study and those who visited pharmacies to purchase medicines during the study period and were willing to participate were considered as study population. People taking prescription medications and medications ordered by a doctor are excluded.

The study was conducted using questionnaires. The developed questionnaire form and responses are collected from participants explaining the purpose of the study. Detailed information about the participant's reasons for self-medication may be continued throughout the questionnaire. Because the study will be conducted in a pharmacy. The research team included Bangalore residents.

STATISTICAL ANALYSIS The study was analysed through calculations, tables, and graphs using SPSS statistical techniques.

RESULT

The prevalence of self-treatment since the pandemic is 100%, with the majority (1008 of 1013 respondents) among those with medical training self-treating without a prescription since COVID-19. Additionally, women150 self-medicate without a prescription more often than men240. Ages 19-25, 161, 26-45,621, and 46-60,200 had the highest rates of self-medication without a prescription among women and men. 0.397 people experienced ADR™. 201 people took antibiotics without knowing what they were taking. 166 people knew what they were eating and took antibiotics. 390 subjects took antifungal medications without a prescription.

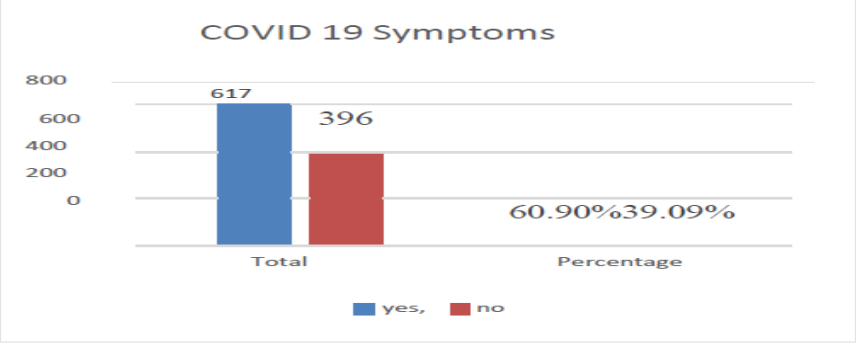


Fig:1 COVID 19 Symptoms: total number of 617 people suffered covid symptoms

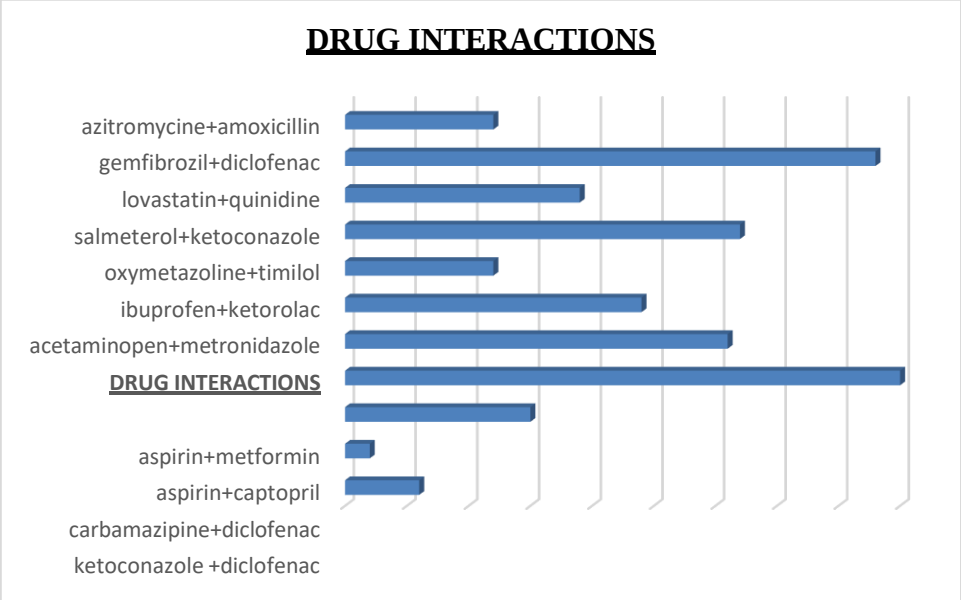
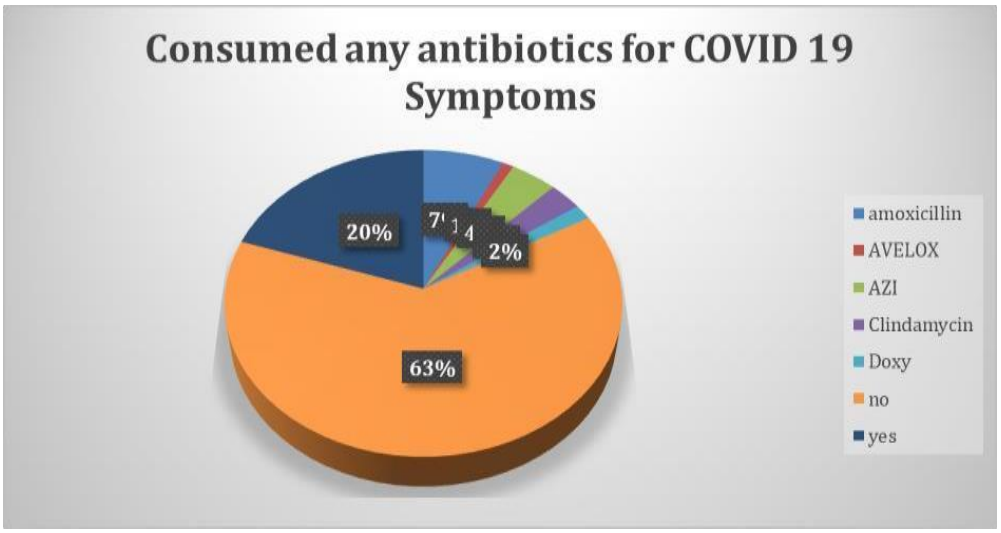


Figure 2 There were interactions recorded amongst antihypertensive, antifungals, analgesics, oral antidiabetics, anticonvulsants, antistatic and anticoagulants.

DRUG INTERACTIONS: Drug interactions observed from self-medication with various disease condition.

- Antidiabetic drugs with aspirin cause increased hypoglycemic effect
- Antihypertensive with aspirin cause increase blood pressure
- Ketoconazole with diclofenac harm liver
- Carbamazepine with diclofenac cause reduced blood levels of diclofenac
- Ibuprofen with ketorolac cause increased toxicity
- Oxymetazoline with timolol cause increased effect of oxymetazoline
- Salmeterol with ketoconazole will increase effect of salmeter.

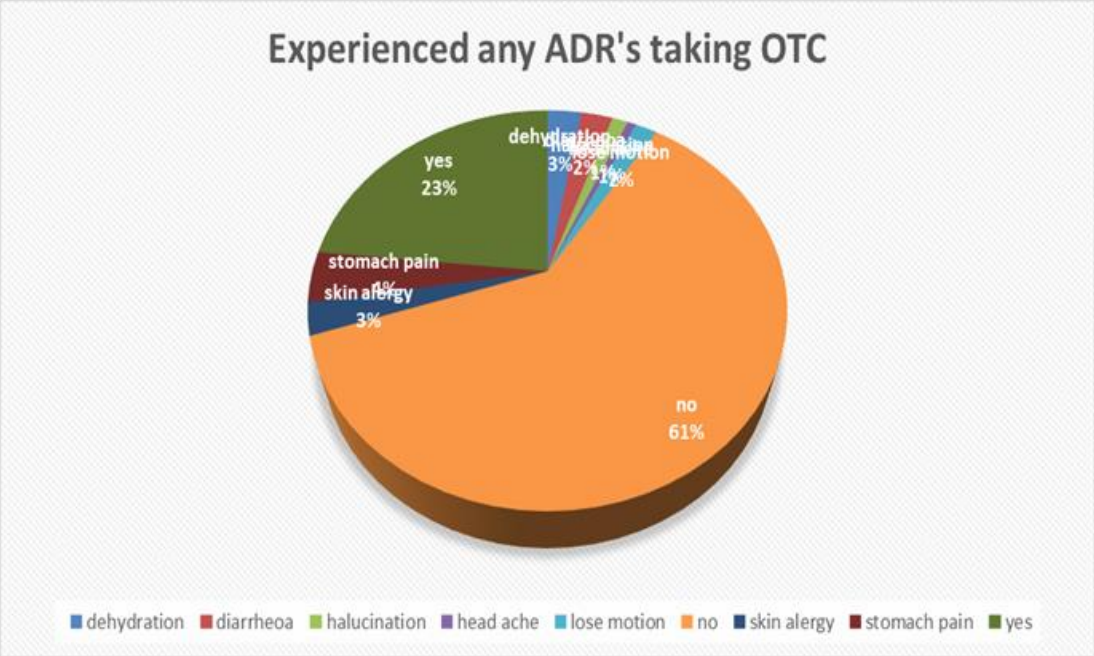
Fig-3: Consumed any antibiotic for COVID-19 symptoms



After covid 19, Antibiotics using as self-medication 373 (47%), in that more consumption of azitromycine20%, amoxicilline20%, doxycycline40%

FIG-4: Consumed any ANTIFUNGALS as self-medication People were taking topical antifungals as self-medication.

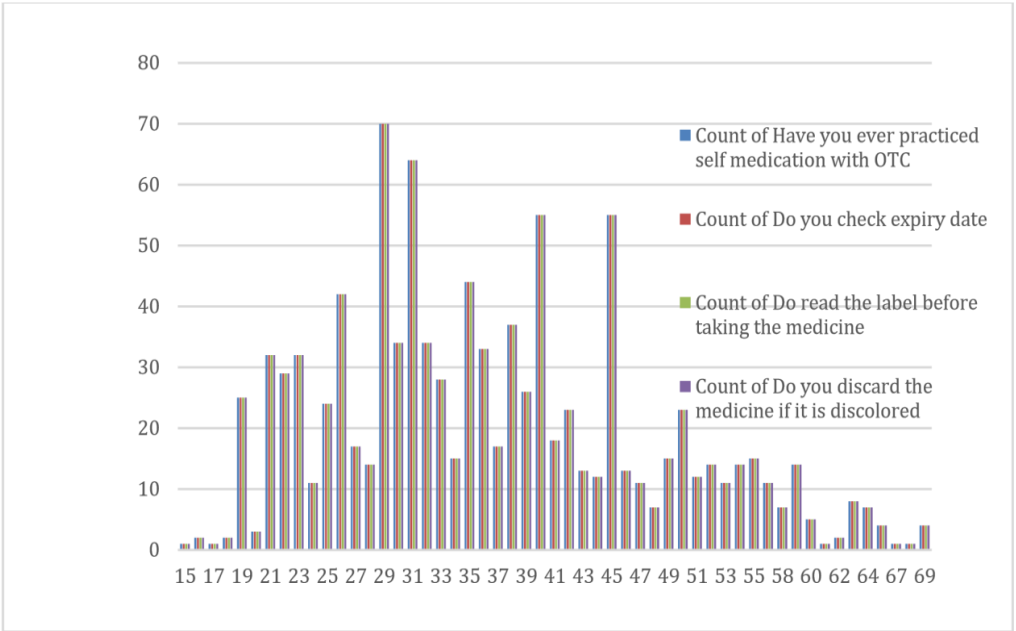
Fig-5: Experienced ADR'S taking self-medication



Adverse Effect Following Self Medication Among the Study Subjects

"Skin rash/blisters", "stomach pain" and "drowsiness" were the most adverse effects reported due to self-medication. It is worth mentioning that the symptoms mentioned are different and may not be the typical COVID-19 symptoms (such fever, breathlessness or cough), implying a wide range of experiences among the respondents.

FIG-6: People taking self medication w.r.t AGE



Reasons Prevalence of Self Medication after Pandemic

Moreover, when asked if they cause used self-medication after the pandemic, more than half 617 are using for symptoms get cured by OTC medicines, effectiveness, and they are not aware of precaution while using medicine.

Table of reason for going self-medication

REASON FOR GOING SELF MEDICATION	YES	NO
High consultation fees	83(8.1%)	930(91.9%)
Minor symptoms	993(98.1%)	20(1.9%)
Low cost of medicines	516(50.9%)	497(49.1%)
Time consuming	581(57.3%)	432(42.7%)
Easy availability	727(71.8%)	286(28.2%)
Effectiveness	392(38.7%)	621(61.3%)

In our study most of the people are taking self-medication because of easy availability of drugs (71%), less time consumption (57%), low cost of medication (50%) and suffered from minor symptoms. but most of them not bother about doctor consultation fee (91%).

DISCUSSION

In our survey, 37% population used antibiotics next to the analgesics. Similar results were found in a study conducted by Tabiei et al. The most commonly used medication at random after analgesics was found to be antibiotics (53.1%). This quantity requires more thought and careful study. Because inappropriate use of these drugs increases bacterial resistance, increases susceptibility to side effects, and increases treatment costs [9]. Other studies have reported reasons for self-medication including keeping medications at home, believing self-medication is safe, not having enough time to see a doctor to resolve the problem, and having medications delivered from a pharmacy. It is done. Without a doctor's prescription [10,11] Our study addressed mild symptoms, high cost of consultation, low drug cost, time saving, easy availability and effectiveness of the drug. Cost of doctor visits, lack of access to doctors due to financial poverty, and high cost of doctor visits not covered by health insurance [11,12]. The low cost of drugs also appears to have an impact on drug abuse [13]. The lack of accurate information about the effects of drugs and doctors' lack of trust in drugs were also pointed out in other studies [14]. In this study, the overall rate of self-medication to treat or prevent COVID-19 without prior medical or professional consultation was 99.5%. This table is relatively high percentage in taking self-medications compared to previous reports in the studies (16,17,18) Socio-demographic characteristics of participants, definition of self-treatment, severity of COVID-19 disease, availability of drugs used for self-treatment, study duration and design.

CONCLUSION

Self-medication is a major health issue in Bengaluru, especially during the COVID-19 pandemic. Various medications have been used for respiratory symptoms and symptoms related to COVID-19 without sufficient scientific evidence. Paracetamol and aceclofenac were the most consumed drugs, but antibiotics (penicillin and azithromycin), hydroxychloroquine, and even antihistamines and antifungals were also commonly used. People in Bengaluru have been consuming it as a precaution against COVID-19 symptoms, to treat suspected symptoms and even after being infected with COVID-19. Acetaminophen use was associated with region of residence, antifungal use was associated with respondent age, and penicillin derivative use was higher among those currently working. Continued awareness and awareness-raising of the risks of self-medication are essential. Our results should be taken with caution and should not be interpreted as a recommendation to self-treat or use these medications in the belief that symptoms will improve. Always seek medical advice and advice before taking any medication. We hope these results will help healthcare providers identify interventions to improve pharmaceutical care as they work to save lives.

Scope for future work: Same survey can be conducted in large populations to prevalence of self-medications.

RECOMMENDATIONS

To the risks of self-medication after the COVID-19 pandemic in Bangalore, policymakers and healthcare professionals should implement public awareness campaigns, community engagement, improved healthcare accessibility, Media literacy programs, peer education, telehealth services, regulatory measures

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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