SHORT RESEARCH ARTICLE

Self-Medication Among Medical Students During the COVID19 Pandemic

Patel Princy Alpesh[1], Zalavadia Jill[2], Prajapati Ayushi[3], Pavasiya Disha Jeram[4], Swati Patel[5], Neeta Sharma[6], Payal Naik[7]

[1-7]Surat Municipal Institute of Medical Education and Research, Surat, India

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ABSTRACT

Introduction: During the different wave of pandemic, due to various reasons self-medication practices among the public increased. Medical students are prone to such practices due to relevant background knowledge, and access to drugs. This study assessed the self-medication practice among the medial students during the different waves of pandemic of south Gujarat.

Material and Methods: This descriptive study was conducted during May to June 2022 through self-administered form among medical students of south Gujarat, India. Study questionnaire included general demography; most frequently practice of self-medication. drug and the reason behind it.

Result: Out of total 512 respondents, 381 (74.4%) did self-medication during the pandemic. 358 individuals (94.0%) did self-medication at least one drug since the start of pandemic. The most commonly utilizing medicines as prophylactic was Ayurvedic preparation, Multivitamins, Zinc and Vitamin C. For treatment of symptoms during the pandemic paracetamol (650 mg) was frequently used specially for body ache and fever. The main source of information of self-medication was internet.

Conclusion: This study depicted common self-medication practices among medical students during the pandemic. It is a significant health issue especially during the pandemic times, with high consumption reported as a prevention or treating symptoms of COVID-19.

Keywords: Self -medication, pandemic, covid-19, medical student, paracetamol

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***Correspondence:** Dr. Swati Patel (Email: swati84patel@gmail.com)

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INTRODUCTION

Coronavirus disease (COVID-19) is a contagious illness caused by the SARS-CoV-2 virus. On January 30, 2020, the World Health Organization declared the disease to be a pandemic. As of the 22nd of October 2021, the global crisis has impacted 242 million people and claimed over 4.9 million lives. India experienced its first, second, and third waves of pandemic outbreaks on September 14, 2020, May 3, 2021, and January 17, 2022, respectively.[1,2,3] At the time of the coronavirus disease outbreak, there was no specific treatment available. Multiple drugs were undergoing clinical testing. Anti-malarial drugs hydroxychloroquine and chloroquine were granted emergency approval for COVID-19 prophylaxis when a small, non-randomized trial initially showed promise.[4]

Self-medication is defined as the use of medication, such as prophylactic drugs, ayurvedic preparations, symptomatic drugs, or antibiotics, without the supervision of a professional health care worker. The World Health Organization (WHO) defines responsible self-medication as the practice by which individuals treat their symptoms of illness with medicines that are approved and available without prescription, with drugs of proven safety, quality, and efficacy and for the indicated condition.[5] However, self-medication in the context of the COVID-19 pandemic cannot meet these criteria because the drugs and compounds recommended for the treatment of COVID-19 to date have not been proven safe, effective, or appropriate for the indicated condition.[6,7]

During the pandemic, self-medication will significantly reduce the burden placed on skilled physicians, pharmacists, and other allied frontier healthcare professionals to treat minor illnesses.[7] Numerous studies have been conducted on the prevalence of self-medication among students and medical students, but this practice has increased worldwide during the Covid 19 pandemic, including among students. Several studies on the prevalence of self-medication among the general population during the COVID19 pandemic are available. Only Pakistan and Nepal have conducted research on self-medication by medical students during pandemics.[8,9]

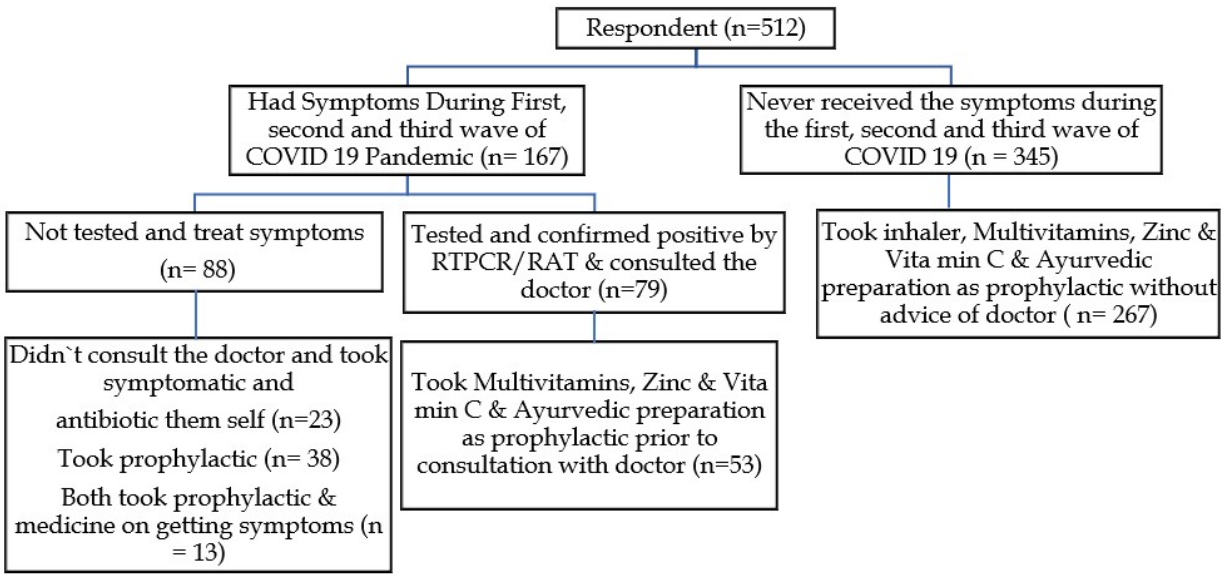
It is important to evaluate the self-medication practices of medical students, as they possess pertinent knowledge and are more likely to have access to both prescription and over-the-counter medications. Low propensity to consult health professionals, reliance on the Internet for information on background medical knowledge, and the treatment of self-diagnosed illnesses may be factors that encourage self-medication among medical students.[10,11]

The primary objective was to evaluate the self-medication practice, its source, and its rationale among medical students during the COVID-19 Pandemic. We also evaluated the self-medicated drugs used to treat respiratory problems during the pandemic.

METHODOLOGY

A cross sectional study was conducted using self-administered form from May to June 2022.

The study proforma was prepared by extensive literature review and its face validation was done by expert from community medicine and pharmacology. The questionnaire was reviewed by a panel of three experts, and the content validity index (CVI) was calculated for each question; the average CVI was 0.81. The respondent's dependability was determined to be satisfactory (Cronbach = 0.90). The tool was piloted among 20 students to assess its feasibility. Necessary modifications were made based on the pilot survey before finalising the final tool. The participants of pilot survey were excluded from the final analysis.



The final tool was digitized using google form and converted in to mobile as well as computer friendly version. The study proforma was distributed online and was allowed to submitted using email id only to avoid duplication. The forms were distributed to undergraduate students of SMIMER, medical college.

At the initial page of the form describe the scope and purpose of the investigation. Before beginning the questionnaire, participants were asked to give voluntary consent by clicking the next tab in the form. This was considered as informed consent of the participants. To keep the confidentiality of the survey, name was not included in the survey, however email id was mandatory to submit form. Email id of all participants were kept strictly confidential. Microsoft Excel was used to clean the data, and Microsoft Excel and SPSS were used to perform descriptive analysis.

RESULTS

The questioner was sent to total 750 medical student of tertiary care hospital, south Gujarat. Total 512(68.3%) respondents in this survey were first, second- and third-year medical students. Out of them 304 (59.4%) and 208(40.6%) were female and male students respectively. Mean age of the respondent was 21.9±2.16.

Out of total respondents, 381 (74.4%) did self-medication with any drug for symptoms or as prophylaxis during the different waves of covid19 Pandemic. During the different waves of, out of these 381 medical students 358 (94.96%) took prophylactic drug and 23 (6%) took symptomatic and antibiotics (Table.1).

In comparison to first wave, a 60% decrease was observed in the practice of self-medication of prophylactic drug during second wave. Whereas 52 % decrease was observed during the third wave in comparison to second wave. The usage of antibiotics and drugs for various symptoms was maximum (52.2%) during second wave out of all waves of the Pandemic (Table 1).

During the whole duration of pandemic Ayurvedic preparations were most frequently used among prophylactic drugs, i.e. 93%, 80% & 47% during first, second & third wave respectively. (Fig 3). During the first wave of COVID19 highest students used Multivitamins (71%), Vit c (66%) and Zinc (59%). Later, during the pandemic the usage was observed to gradually decrease. During the entire pandemic highest usage of prophylactic treatment was Ayurvedic preparation (84%) (Table 2).

Table 1: Details of Self-medication during COVID19 Pandemic

	Self-Medication (n=381)	First Wave	Second Wave	Third Wave
Prophylactic Treatment	358(94.96%)	225(62.8%)	90(25.1%)	43(12%)
Symptomatic & Antibiotic treatment	23(6%)	7(30.4%)	12(52.2%)	4(17.4%)

Table 2: Details of Prophylactic treatment during the different wave of Pandemic (Multiple responses)

	First Wave (n=225)	Second Wave (n=90)	Third Wave (n=43)
Ayurvedic Preparation	209(92.9%)	72(80%)	20(46%)
Multi Vitamins	159(70.7%)	49(54.4%)	18(41.9%)
Zinc	132(58.7%)	43(47.8%)	15(34.9%)
Vitamin C	149(66.2%)	46(51.1%)	12(27.9%)

Table 3: Details of usage of medicine according to symptoms among the students who got symptoms during Pandemic (n=23) (Multiple response)

Symptoms	paracetamol (650 mg)	Azithromycin	Anti-viral	Hydroxychloroquine	Ibuprofen
Fever	19(82.6%)	7(30.4%)	5(21.7%)	2(8.7%)	3(13.0%)
Body Ache	16(69.6%)	7(30.4%)	7(30.4%)	2(8.7%)	12(52.2%)
Cough & Cold	2(8.7%)	2(8.7%)	3(13.0%)	0	1(4.3%)
Nasal Congestion	1(4.3%)	1(4.3%)	1(4.3%)	0	0
Sore throat	4(17.4%)	3(13%)	2(8.7%)	0	0

Table 4: Details of Source of Information for usage of prophylactic and Antibiotics &Symptomatic treatment

Sources of Information	Prophylactic	Antibiotics & symptomatic	Total
Internet	221(61.7%)	8(34.8%)	229(60.1%)
Senior Students	69(19.3%)	12(52.1%)	81(21.3%)
Relatives	46(12.8%)	0(0%)	46(12.1%)
Book	19(5.3%)	3(13.0%)	22(5.8%)
Radio	3(0.84%)	0(0%)	3(0.8%)
Total	358	23	381

Out 23 who took symptomatic treatment & Antibiotics, the highest usage of medicine was paracetamol(650mg) for fever (82.6%). The other commonly used drug was Ibuprofen (52%) for body ache, Azithromycin (30%) for fever and Body ache. (Table 3)

Table 4 depicts that the common source of information of prophylactic as self-medication during the pandemic was internet. Almost 229 (60.1%) students got this information from internet. Whereas senior students were the predominant source of information for usage of antibiotic & symptomatic drugs who got the symptoms but didn`t tested (12.1%).

Discussion

During the covid19 pandemic, self-medication was commonplace throughout the globe. During the covid 19 pandemic, this study examined the self-medication practises and sources of medical students at a tertiary hospital in south Gujarat. Various Ayurvedic preparations were the most commonly used drugs for preventative purposes. The most prevalent reason for this was the perception that ayurvedic preparations are safer than allopathic medicines. It is also intended to enhance immunity against the new disease for which there is no definitive treatment.

Compared to the prevalence of self-medication among medical students in Pakistan during the COVID19 Pandemic, which was reported to be 81.23 percent, the prevalence of self-medication reported in this study is not significantly higher.[1] According to numerous studies, the prevalence of self-medication in the general population ranges from 32.5% to 81.5% worldwide.[(8)] The other prevalence of self-medication is difficult to compare to this study due to the variation in inclusion criteria, such as different student years, demographics, pandemic waves, etc.

This study also reveals that the prevalence of self-medication with ayurvedic preparations is higher than with other drugs, especially antibiotics, which are the subject of the other studies. In self-medication, the usage of prophylactic decreased gradually until the third pandemic wave, which was caused by vaccination, and over time, the fear of new diseases diminished. During the pandemic, only azithromycin was used by a small number of students. During the second wave of the pandemic, antibiotics and symptomatic treatment were utilised at a higher rate due to depleted resources caused by unexpectedly high demand. No ICU/isolation wards remained in hospitals; life-saving drugs ran out rapidly; oxygen supplies were interrupted; and a high number of casualties were reported across all age groups. The use of multivitamins is greater than that of other studies[1,12], but no comparable information regarding the use of vitamin C and zinc by medical students has been observed in other studies. The media has aided in promoting the positive effects of vitamins on the immune system, particularly because the internet is regarded as an easily accessible source for information about vitamins and minerals.[13,14,15] Focusing on trace elements, zinc generated the most interest from researchers and the public, and there is evidence that self-supplementation with this mineral has increased significantly in areas with a high prevalence of COVID-19. During the pandemic, the most common self-medication for fever and body aches was paracetamol, which is consistent with other studies.[1,11,16] Medical Students in Iran also used this drug the most. Medical students are more likely than Paramedical students to engage in self-medication with paracetamol. According to the recommendation, mild COVID19 symptoms can be treated at home with paracetamol during the initial months of the pandemic[17] or for self-medication, particularly fever and headache.[18] Out of a total of 88 patients, 26.1% used Azithromycin without a prescription despite not having been tested for and treated for symptoms for which the drug is typically prescribed. Although the use of Azithromycin has increased during the COVID-19 pandemic, it is not recommended that azithromycin be used routinely for COVID-19 in the absence of additional indication. Due to the lack of a standard treatment guideline at the beginning of the pandemic, the Internet is the primary source of information for self-medication in this study.[19,20] Between 7 January 2020 and 1 June 2020, the Google trend for searches on self-medication reflects the increase in interest in online Self Medication information during the COVID-19 pandemic.[12] During the pandemic, the most popular search terms were 'self-medication', 'self-care,' and 'self-administration' in order to determine if there was a worldwide increase in interest in obtaining online information about self-medication.[19]

This study only included medical students, so the results should only be interpreted in that context.

Conclusion

This study reveals that during the pandemic, self-medication was prevalent among medical students for both preventative and curative purposes. The majority of Ayurvedic preparations and multivitamins were purchased without a prescription, which could have severe consequences.

The study emphasises the importance of strict enforcement of drug regulations and increases public awareness of the dangers of self-medication. Students should be made aware of the risks of self-medication and discouraged from engaging in it.

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