Original Research Article

# A cross sectional study on Self-medication Practice among medical students during Covid 19 pandemic

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**Received: 12-10-2021 / Revised: 05-11-2021 / Accepted: 20-12-2021**

## Abstract

**Introduction**: Self-medication practice (SMP), is the one element of self-care, use of medication without the prescription of medical professionals for the treatment of self-recognized illnesses. (E.g., resubmitting old prescriptions, sharing medication with relatives/family members or using leftover medications) The aim of this study is to determine the prevalence of self-medication practice among medical students during Covid 19 pandemic. **Methodology**: This was a cross sectional study on self-medication practice. A total of 510 MBBS students at Government Medical College, Ratlam were enrolled in study taking care of inclusion criteria. Data was collected on pre designed semi structured questionnaire through Google forms and was analysed using Epi info (CDC version 6). **Result**: Out of 510 MBBS students, 394 students responded to fill the form completely with an overall response rate of 77%. Self-medication practice in preceding 6 month amongst MBBS student was 291 (73.85%). There is significant association of self-medication practice with age, gender and 1st, 2nd & 3rd year of MBBS. **Conclusion**: Self-medication practice is widely prevalent amongst MBBS student especially in Covid pandemic. Approx. 74% of MBBS Students practiced self-medication in preceding 6 months.

**Keywords**: Self-medication practice, medical students



## Introduction

Self-medication practice (SMP), is the one element of self-care, use of medication without the prescription of medical professionals for the treatment of self-recognized illnesses. (E.g., resubmitting old prescriptions, sharing medication with relatives/family members or using leftover medications)[1].Globally, the prevalence of SMP is inconsistent ranging from 32.5 to 81.5%[2].Self-medication practice influences health care seeking behaviour of individuals. It leads to wastage of resources, delay in diagnosis of problems and appropriate treatments. It can also lead to serious health hazards and adverse drug reactions. There are some factors responsible for practice of self-medication like lack of health facility nearby, urge of self-care, sympathy, poverty, lack of awareness etc. People practice self-medication for various of reasons and through various ways. Self-medication may include like advertisement of drugs in case of cold, availability of some drugs without prescription on pharmacy, availability of drugs at home and through internet search[3].

In regards to self-care, substances used to self-medicate include but are not limited to over-the-counter (OTC) medications, nutritional supplements, and other non-prescription medications. The number of OTC medications has increased significantly, allowing more individuals to practice self-medication[4].Doctors are very well known to treat and investigate themselves without taking some other doctors' opinion. Self-diagnosis and self-treatment are common behaviour among medical students also. They are the most prone groups to practice self-medication recurrently. In India, prevalence of self-medication practices among students varies from 74.6% and 69.4%, respectively[5].

The aim of this study is to determine the prevalence of self-medication practice amongst MBBS students during Covid 19 pandemic.

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## Subjects and Methods

After obtaining approval from Institutional ethical committee a cross sectional study was carried out on MBBS students of Government Medical College, Ratlam. Considering inclusion criteria i.e., all medical students who were willing to participate in study and those who were practising self-medication were enrolled.

A total of 510 MBBSstudents fulfilled inclusion criteria in study. Data was collected on pre designed semi structured questionnaire through Google forms. The questionnaire consisted of both close-ended and open-ended questions. Data was analysed using Epi info (CDC version 6). Collected data was summarized using descriptive and inferential statistics, and later presented in tables, graphs, percentages, and cross-tabulation. Confidentiality of study participant wasstrictly maintained with anonymous questionnaire.

## Results

### Demographic characteristics

A total of 510 MBBS students were enrolledin study taking care of inclusion criteria's out of those, 394MBBS students participated in the study making response rate of 77 %. It was observed that out of all study participants, 77 were from 3rd year, 164 were from 2nd year and 153 forms were from MBBS 1rd year. The study participants mainly included females203 (51.5 %) (Table1, Figure 1).

**Table 1: Demographic profile of participants**

| Demographic | | | |
|---|---|---|---|
| **Variable** | **Category** | **Frequency** | **Percent** |
| Age | </=19 year | 120 | 30.5 |
| | 20-21 | 209 | 3 |
| | >22 | 65 | 16.5 |
| Gender | Female | 203 | 51.5 |
| | male | 191 | 48.5 |
| MBBS | 3RD YEAR | 77 | 19.5 |
| | 2ND YEAR | 164 | 41.6 |
| | 1ST YEAR | 153 | 38.8 |

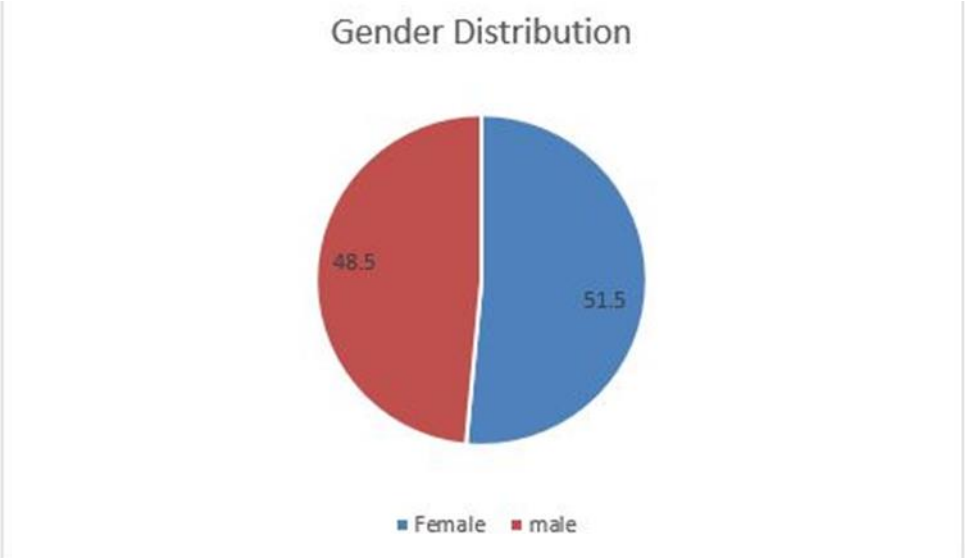


**Fig 1: Gender distribution**

Majority of students i.e., 328 MBBS students (83.24%) felt sick for at least one time in last six month and most common symptom presented was cough in 30.5% followed by fever in 11.9%. (Table 2)

**Table 2: Symptoms in last 6 months**

| Symptoms (in 6 months) | | | |
|---|---|---|---|
| **Variable** | **Category** | **Frequency** | **Percent** |
| Sickness spells | 1 time | 328 | 83.24 |
| | 2 times | 2 | 0.50 |
| | >/= 3 times | 64 | 16.24 |
| Symptoms | Cough | 120 | 30.5 |
| | Aches | 55 | 14 |
| | Fever | 47 | 11.9 |
| | Skin | 18 | 4.6 |
| | Diarrhea | 8 | 2 |
| | Vomiting | 10 | 2.5 |
| | Any other | 61 | 15.4 |
| | Mixed | 75 | 19 |

In our study majority 43.65%of students followed allopathy followed by 8.12% homeopathyand Ayurveda in 7.86% and mixed pathy in 11.42%.

**Opinion for selection of medication and obtaining medicine**

While practicing self-medication, majority of students 18.52% selected medicines by their own opinion, followed by in 17.76% students using previous doctor prescription for similar symptoms, 13.95% took opinion from family member, 11.42% students through any guideline, Television or through internet. Medicines used for self-medication were obtained by students in 52.03%from medical store (over the counter), in 9.64% from medicine left over athome and 5.32% studentstook from health care facility. Antibiotics were mostly used for reliving their symptoms in 53.04% of students.

**Consideration while practising self-medication**

While practicing self-medication, 34.51% students look for type of medicine being used followed byIndication for use of drug in 22.84%, adverse drug effects in 12.4% and brand of medicine in 4.06%. About 65.48% students responded thatthey check instruction while taking medication and follow it. While practicing self-medication majority of students consulting book 39.54% for dosage of medicine followed by 18.52% checked on package. It was observed that 48.47% students never change dosage of medicine and never switch medicine during course while practicing self-medication.

Prevalence and reason for self-medications practices: In the study, prevalence of self-medication practice amongMBBS students was 73.85%. The main Reason for self-medication practices was convenience (23.09%), intention of getting quick relief/ for emergency use (21.06%) followed by trust in their own prescription (20.8%), cost saving (5.83%) (Table3, Figure 2).

**Table 3:Self-medication practice among MBBS students and factors**

| Self-medication | | | |
|---|---|---|---|
| About self-medication | Taking medication without prescription | 43 | 10.9 |
| | Taking medication with prescription | 93 | 23.6 |
| | self-treatment for self-diagnosed disease or symptoms | 49 | 12.4 |
| | both 1 & 3 | 209 | 53 |
| Have you ever treated yourself in last six month through self-medication | Yes | 291 | 73.85 |
| | No | 103 | 26.14 |
| What were/ was your reason(s) for self-medication | Trust in your prescription | 82 | 20.8 |
| | Convenience | 91 | 23.09 |
| | Cost saving | 23 | 5.83 |
| | Lack of health care facility | 11 | 2.79 |
| | intention of getting quick relief/ for emergency use | 83 | 21.06 |
| | No self-medication | 103 | 26.14 |
| Type of pathy used | allopathy | 172 | 43.65 |
| | ayurvedic | 31 | 7.86 |
| | homeopathy | 32 | 8.12 |
| | Don't know | 11 | 2.79 |
| | mixed | 45 | 11.42 |
| What medication did you used | antibiotics | 209 | 53.04 |
| | anti-fungal | 13 | 3.29 |
| | anti-malarial | 1 | 0.2 |
| | anti-pyrectics | 68 | 17.25 |
| | any other | 119 | 30.20 |
| | No medication | 103 | 26.14 |
| opinion for selection of medication | Family member opinion | 55 | 13.95 |
| | Friend's opinion | 19 | 4.82 |
| | Previous doctor prescription | 70 | 17.76 |
| | Self-opinion | 73 | 18.52 |
| | Through guideline, tv, internet | 45 | 11.42 |
| | Others | 29 | 7.36 |
| | No medication | 103 | 26.14 |
| What did you considered while practicing self-medication | Adverse effect of drug | 49 | 12.4 |
| | Brand of medicine | 16 | 4.06 |
| | Indication for use of drug | 90 | 22.84 |
| | Type of medicine | 136 | 34.51 |
| | No self-medication | 103 | 26.14 |
| Where did you usually obtained medicine for self-medication | home | 38 | 9.64 |
| | health care facility | 21 | 5.32 |
| | medical store | 205 | 52.03 |
| | online | 5 | 1.26 |
| | other | 22 | 5.58 |
| Did you ever check instruction while taking medication and follow it | yes | 258 | 65.48 |
| | no | 33 | 9.1 |
| How did you know about dosage of medicine | Checking package inserted | 73 | 18.52 |
| | Consulting book | 156 | 39.59 |
| | Consulting medical store | 41 | 10.40 |
| | Others | 21 | 5.32 |
| Did you ever change the dosage of medication you are self-prescribing | Yes | 100 | 25.38 |
| | No | 191 | 48.47 |
| Did you ever switch medication during course of medication or change your dosage | Yes | 100 | 25.38 |
| | No | 191 | 48.47 |

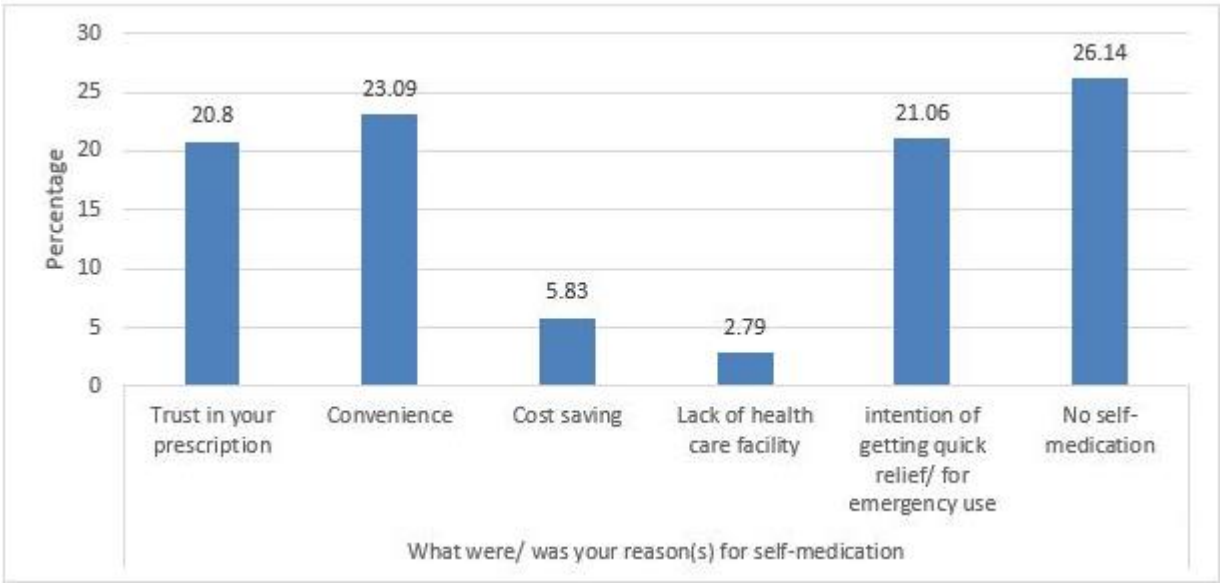


**Fig 2: Reason for self-medication**

**Association between demographic details and self-medication practice**

It was observed that there was significant association of self-medication practice with age (11.886, p=0.003, gender (9.207, p=0.002) and MBBS year (6.527, p=0.038) as shown in (Table 4).

**Table 4: Association between demographic details and self-medication practice**

| Variable | category | self-medication | | Total | $x^2$ | df | p |
|---|---|---|---|---|---|---|---|
| | | yes | no | | | | |
| Age | <19 | 86 | 24 | 110 | 11.886[a] | 2 | .003 |
| | 20-21 | 158 | 46 | 204 | | | |
| | >22 | 47 | 33 | 80 | | | |
| Gender | female | 188 | 49 | 237 | 9.207[a] | 1 | .002 |
| | male | 103 | 54 | 157 | | | |
| MBBS year | MBBS 3rd year | 87 | 43 | 130 | 6.527[a] | 2 | .038 |
| | MBBS 2nd year | 81 | 18 | 99 | | | |
| | MBBS 1st year | 123 | 42 | 165 | | | |

**Discussion**

A good health is fundamental requirement of life. An efficient and effective health care environment is key for a prosperity of a community. Self-medication is one the factor which defines health status. Unvalidated use of medications lead to economic burden, drug resistance leading to increase in morbidities. However, responsible self-medication includes using over the counter (OTC) and relatively low-risk drugs to treat self-diagnosed disorders or symptoms[6], which can prevent mild illnesses and thereby reduce health care financial costs.

Our study aims to focus on MBBS medical students, in them self-medication practise is very common due to knowledge of variety of medicines and pharmacokinetics. We found a prevalence of 73.85% among MBBS medical students in our medical college which was comparable with other studies conducted in different areas of country (Maharashtra 71.7[7], Karnataka 78.6[8], West Bengal 57.05[9], JK 81[10] and Kerala 64.9[11]. Similar study among medical students around world reported a prevalence as Egypt 55.2[12] , Iran 57.1[13],Ethiopia 38.5[14],Slovenia 92.3[15],Serbia 79.9[16],Spain 45[17],Germany 8[18] and France 17[19]. There appears a wide variation in prevalence among developed and developing countries which may be due to well-structured health care system and non-availability of medicines without prescription in developed nations.

Prevalence of self-medication reported among non-medical students varied from 87%[20] , 80.13 %[21] which shows equivocal prevalence . However, this may not be the true picture as there are very few studies with non-healthcare persons.

In our study female preponderance was seen in the pattern of self-medication which is similar to other studies around the world[22,7,13,12]. Among use of various systems of medicine, our study showed higher use of allopathic medicine followed by traditional systems of medicine. However, few participants preferred mixopathy .These findings are consistent with other studies[20,10,23]. We found the main reason for self-medication practices was convenience (23.09%), intention of getting quick relief/ for emergency use (21.06%) followed by trust in their own prescription (20.8%), cost saving (5.83%). Other studies have also revealed that the most common reason for self-medication was previous experience, lack of time to consult health professionals and to be cost-effective[23].

In our study we found the use of antibiotics was widely prevalent among responders which shows an alarming picture. Widespread use of antibiotics without evaluation of need leads to microbial resistance, economic burden and an array of side effects which may become debilitating further hampering quality of life. This practise needs a focused attention and needs to be curtailed for a greater good. Easy availability of medicines from medical stores has been reported as reason for widespread use in our study.

We studied the behaviour of students for self-medication and found that majority of them used either textbook or previous doctor's prescription for finding drug and its dose. However, students resorted to instruction leaflet for intake instructions. Majority of students adhered to the dosage instructions and did not change medication

during the course which shows good practise behaviour among students.

This study highlights the self-medication practise and its alarming pattern widely prevalent among medical students which is validated with other studies. Self-medication with half-baked knowledge is very dangerous and proper guidance is the need of hour. In present scenario we suggest robust public awareness campaigns and strict enforcement of drug regulations so as to prevent use of prescription drugs in an unauthorized way. College students irrespective of study field should be made aware of pros and cons of self-medication.

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**Conflict of Interest: Nil Source of support: Nil**