

# Prevalence, Attitude and Knowledge of Self Medication during Covid-19 Disease Pandemic

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## ABSTRACT

**Aim:** To determine the prevalence, attitude, and knowledge of self-medication of general population for the prevention of coronavirus during the COVID 19 pandemic.

**Place and duration of the study:** Major studies of Punjab during 2020.

**Methodology:** A self-generated questionnaire was distributed online amongst the general population of Punjab excluding the people using medication for any other chronic medical disorder. The study included the general public including the age group from 16-60 years.

**Results:** Among 290 participants, 33.7% were males and 66.3% were female. Based on the data obtained 53% used medication without a doctor's prescription (self-medication) while 46.7% took the medication with a doctor's prescription. Those with the habit of self-medication relied on both allopathic and herbal medications due to various reasons, the most frequent reason found was unavailability of doctors (27.8%). The most frequently used self-medicated drugs were pain killers, Hydroxychloroquine, Azithromycin and Ivermectin to prevent from this deadly virus ( $p$ -value=0.000). Adverse effects reported after self-medications are statistically non-significant.

**Conclusion** It is concluded that majority of the general population of Punjab are in the habit of self-medicating themselves because of difficulty in approaching physicians and the most commonly self-medicated drug with or without symptoms was found to be tablet Azithromycin as a preventive measure during this pandemic.

**Keywords:** COVID-19, self-medication, adverse effects

## INTRODUCTION

Human beings have been facing many global challenges especially health related infectious diseases. Back in 2019 in China, a new virus was recognized named corona virus caused many pneumonia likecases<sup>1</sup>. This novel coronavirus (COVID-19) pandemic is now spreading fast by threatening lives of millions of people worldwide<sup>2</sup>.

The first confirmed case reported in Pakistan was on 26 February 2020. Since then cases had been spreading in all four provinces, but the distribution of COVID-19 in Pakistan is heavily concentrated in a few key areas<sup>3</sup>. At this stage of the pandemic, self-medication is found as a common practice in our country<sup>4</sup>. Self-medication also known as self-administration of medication, it is a common practice across the world and it involves situations where individuals take medicines to treat conditions or symptoms without prescription from a qualified healthcare professional<sup>5,6</sup>.

At present, the foundation of management of disease involves early diagnosis and supportive care of symptoms and optimum support for organ function in severe illness. In Pakistan most self-medicated drugs are antimicrobials (azithromycin), anti-parasitic (ivermectin), anti-malarial (hydroxychloroquine) along with leukotrienes inhibitor (montelukast), vitamin D, zinc, calcium and paracetamol<sup>7</sup>. These drugs are reported to become short in the dispensaries in the major cities of Punjab. Immediate and

delayed complications may occur as a result of misuse or overuse of these drugs<sup>8</sup>.

In addition to these medicines, an increasing trend towards the use of herbal and homeopathic drugs, has been seen in this pandemic. Several doctors and researchers have already experimented to use herbal medicines on clinical trials against SARS-COV-2<sup>9</sup>. Medicinal plants have common anti-inflammatory properties in providing symptomatic relief from cold, fever and sore throat. The myth of Sanamakki leaves/tea use in COVID 19 has started from such bases. There are several media reports of the use of Senna in Pakistan for the prophylaxis or the treatment of Covid-19 infection<sup>10</sup>.

This study aims at determination of the prevalence, attitude and knowledge of self-medication of general population for the prevention of coronavirus during COVID 19 pandemic.

## MATERIALS & METHODS

This cross-sectional online survey adopted to investigate the awareness and practice of self-medication conducted in 2020, because it was not feasible to do a community based sampling survey during this outbreak period, the data was collected online by convenience sampling. After ethical approval from institute, a questionnaire (an online form developed in Google form application) was distributed among general public in Punjab and its major cities. The questionnaire was filled after taking an informed consent from general public including age group from 16 years to 60 years. All those subjects will be excluded from the study

Received on 13-01-2021

Accepted on 25-04-2021

who were already using any medication for their underlying medical disorder e.g. Hepatitis B & C, Diabetes mellitus, hypertension, any malignancy, chronic obstructive airway disease. The questionnaire contained three parts, one assessed the demographic details of the participants (questions 1 to 6). Questions 7-8 involved the diagnosis of COVID 19 and COVID 19 testing respectively. The second section assessed the prevalence and practice of self medication to prevent from COVID 19, while the last section dealt with the attitude of people towards herbal medicines vitamin supplements.

**Statistical analysis:** The data was arranged and analyzed by using SPSS (Statistical Package for Social Sciences) version 25. Data was analyzed for normality by using Shapiro-Wilk test. Median with IQR was used for non-symmetrical data whereas Mean±SD was used for symmetrical data. Chi-square test was used for comparison and the results are tabulated as frequencies and percentages. A  $p - value \leq 0.05$  was considered statistically significant.

## RESULTS

Total 290 participants completed the online survey questionnaire. Among all, 91(33.7%) respondents were male and 179(66.3%) were female. Majority subjects who participated were living in urban areas 233(86.3%), while only 37(13.7%) belongs to rural areas. Among the study participants, only 126(46.7%) took medication with doctors' advice and remaining 143 (53%) subjects took the drugs as "self-medication" by other sources like friends/family, pharmacy/dispensary and media/internet.

A total of 29(10.7%) of study participants said it is their habit of doing self medication and 44(16.3%) respondents did self medicate on their own in fear of getting contact to virus. There were some other reasons given by respondents as listed in the table 1. Common symptoms for which the respondents took medications were fever (50%), throat pain (26.7%), dry-cough (43.3%), loss of smell and taste (20.7%), body ache (34.7%) and rarely diarrhea (14.7%) respectively (Table 1).

Among self-medicated drugs, most commonly used products were Allopathic medicines which were reported by 50(18.5%) of the subjects, and herbal medicines used by 15(5.6%) of the study participants. Among the surveyed drugs, 58 (21.5%) of the study participants reported of consuming Tab. Azithromycin as a preventive measure without any symptom during lockdown. While 7(2.6%) of subjects have consumed tablet hydrochloroquinone,

9(3.3%) of subjects have used tablet Ivermectin, 14(5.2%) subjects has used Disprin, 42(15.6%) respondents has used tablet Soften, 8(3%) and 45(16.7%) of study participants reported to have consumed tablet Dexasmethasone and cough syrups respectively. Among the other drugs, 117(43.3%) individuals used tab panadol and some people also have claimed to use tablet Ibuprofen, tablet Levofloxacin and Cephalosporins . Only15 (5.6%) respondents have faced the adverse affects by the use of these drugs and 255(94.4%) have not faced any adverse affects. (Table 2).

Table 1: Gender wise Distribution and Reasons / Adverse effects of Self Medication

Variable		Frequency	%age
Gender	Male	91	33.7
	Female	179	66.3
Area of residence	Urban	233	86.3
	Rural	37	13.7
Self-medication	Yes	143	53
	No	126	46.7
Drugs taken	Allopathic	50	18.5
	Herbal	15	5.6
	Both	78	28.9
	None	98	36.3
Reason of self medication	It is habit of yours	29	10.7
	unavailability of doctor required	21	27.8
	Financial issues	3	1.1
	Lack of effectiveness of doctors medicine	2	0.7
	Fear of getting contact to virus	44	16.3
	Bad experience with doctor	5	1.9
Source of medicine being taken	Prescription written for a family member	53	19.6
	Prescription written for a friend	9	3.3
	Directly requested from pharmacy	53	19.6
Adverse affects of self medication faced	Yes	15	5.6
	No	261	96.7

The most widely used herbal medicine among the study participants of 88 (32.6%) was Sana makhi. The others our listed in the table2. Likewise, 73(27%) of the subjects have also added supplements like Vitamin C in prevention against the suffered symptoms. The prevalence of usage of Tab Hydroxychloroquinone (p value=0.008), Azithromycin (p value=0.000 and Ivermectin (p value=0.000) respectively and found to be statistically significant. (Table 3).

Table 2: Frequency of usage of Vitamins, allopathic and herbal medicines

Allopathic medicines	Azithromycin	Dexa methasone	Hydroxychloroquinone	Ivermectin	Disprin	Soften	Cough syrup
Frequency(n)	58	8	7	9	14	42	45
Percentage%	21.5	3	2.6	3.3	5.2	15.6	16.7
Herbals	Sana makhi tea	Homeopathic Medicines	Ginger tea	Green tea	Joshanda tea	Tootsiah syrup	Lemon tea
Frequency(n)	88	9	5	12	4	1	6
Percentage%	32.6	3.3	2	4.8	1.6	0.4	2.4
Vitamins	Vitamin D	Vitamin C	Surbex Z	Tab. Calcium	Centrum	Folic acid	Multivitamins
Frequency(n)	50	73	51	40	1	1	5
Percentage%	18.5	27	18.9	14.8	0.4	0.4	2

Table 3: Frequency of Drugs used as self-medication

Drugs	Frequency(n)	p-value	
Azithromycin	Male	91	0.000*
	Female	179	
Dexamethasone	Male	91	0.290
	Female	179	
Hydroxychloroquine	Male	91	0.008*
	Female	179	
Ivermectin	Male	91	0.000*
	Female	179	
Soften	Male	91	0.962
	Female	179	
Disprin	Male	91	0.775
	Female	179	
Cough syrup	Male	91	0.140
	Female	179	
Panadol	Male	91	0.129
	Female	179	
Sana Makhi	Male	91	0.036*
	Female	179	
Homeopathics	Male	91	0.962
	Female	179	
Vitamin D	Male	91	0.453
	Female	179	
Vitamin C	Male	91	0.820
	Female	179	

\*p –value  $\leq$  0.05 statistically significant

## DISCUSSION

To the best of our knowledge, this is the first study conducted for comparison on national level. This study was carried out during the COVID-19 pandemic to investigate the prevalence of self-medication among the general population in major cities of Pakistan and association factors among male and female population during pandemic. In our study the most common reason given by respondents for self medication was either difficulty in travelling to doctor or they realized that it was their habit of self medication which they have been doing before and during pandemic.

Most self-medication practices are triggered by relatively long waiting time in outdoors, expensive appointments with private physicians, repeated stock-outs of essential medicines and delays in getting treatment<sup>11</sup>. In our study, most participants have self medicated themselves with Allopathic, herbal or both types of medicine. Among which almost 97% individual claimed of experiencing no adverse affects.

The current study highlights the habit of self medication 143(53%) in the population of major cities of Pakistan. However, a similar study conducted in Dhaka city of Bangladesh found that 553(71.40%) people self medicated themselves<sup>12</sup>. Conversely, a study held at Peru, showed that the majority 2526 (66.6%) of participants did not self-medicate with any of the surveyed drugs. The results of our study are in line with the situation of Peru where percentage of population found to be self medicating was 44.4 %, from the results of December 2020<sup>13</sup>.

In the current study, the majority of the respondents took medicines for pain relief, more specifically headaches,

fever, joint, muscle pains also for diarrhea, cough and sore throat before and during the outbreak. Similar conditions have been documented as a common reason for self-medication in study held in Kenya<sup>11</sup>. Most of the respondents (37.61%) took antibiotic as self-medication for fever during COVID-19 outbreak in a study held at Dhaka Bangladesh, followed by throat pain (28.79%), dry cough (14.20%). This study reported that Azithromycin was the drug most consumed among all the surveyed drugs for treatment of SARS COVID 19. These results are in consistent with a study conducted in Peru<sup>13,14</sup>.

This online survey among the male and females of general population found that high prevalence of self-medication of prescription only drugs was persistent during the outbreak in Pakistan. Pakistan is already in the burden of lower ratio of healthcare workers and supply support system. Immediate acceleration of health education campaigns, strict legislations on dispensing drugs and increasing the quality and access to healthcare are the important interventions.

## CONCLUSION

This study concludes that majority of the general population of Punjab are in the habit of self-medicating themselves because of difficulty in approaching physicians.

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