

## Research Article



## A Cross Sectional Study on Perception of Self-medication Practice among General Population - A Questionnaire Based Survey

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### ABSTRACT

Self-medication is defined as the use of medications to treat self-diagnosed disorders or symptoms, or the intermittent or ongoing use of a prescribed substance for chronic or recurrent diseases or symptoms. Despite its many advantages, self-medication increases the risk of drug abuse and addiction. It also obscures the signs and symptoms of underlying disorders, aggravating the situation, causing treatment resistance, and delaying diagnosis. The aim of this study is to investigate the perception of self-medication practices among general population and to assess the pattern, influencing factors and commonly preferred drug for self-medication. A cross-sectional study was conducted online among general population. Data were collected using a self-administered questionnaire and analyzed using Microsoft excel. Descriptive statistical methods, frequencies, mean, standard deviations and percentages were used to summarize the data. A total of 504 respondents participated in the study. Fever 361 (72%) headache 318(63.6%), and cough and cold 311(62.2%) were the most common symptoms for which self-medication was practiced. Analgesics and antipyretics were the most common group of drugs opted for self-medication by the respondents. Convenient and easy to buy (21.8%) followed by low cost (20.2%) and previous experience of treating a similar illness (15.6%) were found to be the purpose of self-practicing of medication. Self-medication is a common practice among general population. The study results revealed that, the safety aspects among the general population were found to be good. The attitude on self-medication practice depends on their knowledge which was found to be good and the practice was fair enough towards self-medication.

**Keywords:** Self-medication (SM), over the counter (OTC), adverse drug reactions (ADRs).

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### INTRODUCTION

Self-medication is defined as the use of medications to treat self-diagnosed disorders or symptoms, or the intermittent or ongoing use of a prescribed substance for chronic or recurrent diseases or symptoms, according to the WHO.<sup>1</sup> Self-medication is frequently used in both developed and developing countries, but it is more prevalent in developing countries due to a greater availability of drugs without a prescription.

Self-medication may involve the use of leftover pharmaceuticals from past treatment courses, drugs obtained from relatives or friends, as well as “non-prescription” or “over-the-counter” medication.<sup>2</sup> The World Health Organization (WHO) emphasized the importance of properly teaching and controlling self-medication in order to avoid drug-related issues. Even though, it has many advantages the major problems are inappropriate medication usage, adverse drug reaction, chronic symptoms have been masked, delayed in diagnosis.<sup>3</sup> Despite the fact that “over the counter drugs”

are intended for self-medication and have been proven to be effective and safe, their side effects and interactions might have catastrophic consequences.<sup>5</sup> A drug interaction is described as the alteration of a drug's effect (therapeutic effect and/or toxicity) by the administration of another drug or food concurrently or previously.<sup>9</sup>

One out of every two women has never received any information on the dangers of drugs in pregnant women. These data highlight how uninformed pregnant women are regarding medications, their properties, and hazards during pregnancy.<sup>10</sup> The results of such studies will aid public health practitioners in determining the importance of a woman's understanding of how to use over-the-counter medications.<sup>11</sup> When compared to prescribed drugs, increased proportions of drugs are used as self medication due to a wide range of drugs being easily available and insufficient health services.<sup>13</sup> WHO member states have developed and begun implementing national action plans (NAPs) that are aligned with the WHO GAP.<sup>15</sup> As a result, giving antibiotics without a diagnosis may promote resistance unnecessarily.<sup>16</sup> Consumer and community awareness campaigns, including those targeting schools and colleges, will also be developed, with a focus on the risks of inappropriate use to patients.<sup>17</sup> Indeed, investigations on parents' awareness and management of OTC drugs for their children have found that this knowledge is frequently lacking.<sup>18</sup> Some medicines should be used with caution in children due to immature metabolic pathways or organ or tissue systems,



whilst others, such as those with improved renal clearance in young healthy kidneys, may be less dangerous.<sup>19</sup> Serious complications after OTC medications misuse have been reported previously.<sup>20</sup> Self-medication activities, in the broadest sense, include the use of over-the-counter medications, the use of prescribed medications without a prescription, and the use of prescription medications without a prescription and the use of CAMs (e.g., herbal medicines, nutritional supplements, home remedies).<sup>21</sup> The widespread use of OTC and/or potentially inappropriate medications raises the danger of drug interactions, which can result in negative consequences.<sup>23</sup> Regulatory authorities in streamlining the process of medication regulations, updating the list of essential medicines, and addressing over-the-counter drug safety concerns.<sup>24</sup> In India, SM is practiced by 8.3 percent to 92 percent of the population. Self-medication is now widely used in both urban and rural areas, with rates ranging from 32.5 percent to 81.5 percent.<sup>12</sup> Advertisements in the media and on the internet, particularly in nations like India, are the primary causes. Gender is a significant factor in self-medication patterns among young adults, including students, with some studies suggesting that females self-medicate more frequently, particularly during menstrual cycles and gynecological problems.<sup>14</sup> Self-medication is an important aspect of self-care. However, it varies from self-care in that it involves the use of medications that may be beneficial or harmful.<sup>26</sup> Over-the-counter (OTC) medications are typically used to treat minor ailments. It is most commonly used for acne, facial pain, congestion, runny nose, fever, headache, hoarseness, itchy eyes, sneezing, sore throat, cough and cold, pain, diarrhea and stomach discomfort, ulceration, and other conditions. Several OTC drugs have the potential to be abused. The most commonly misused pharmaceuticals are cough syrups and pain relievers. The most typically abused drugs are OTC codeine or other opiate-containing pharmaceuticals, as well as OTC cough and cold medications.<sup>25</sup> Drug usage is influenced by the socioeconomic and demographic characteristics of drug users, according to reports. Health care is pricey and unavailable due to the high cost of medicines and the scarcity of doctors. Followed by Age, gender, income, expenditure, self-care attitude, education level, medical knowledge, satisfaction, and perception of ailments are all characteristics that influence self-medication trends in different populations.<sup>6</sup> The youth all over the world are vulnerable to self-medication because they are heavily influenced by the media and the internet, both of which encourage self-medication. Pharmaceutical companies' increased advertising heightens the danger of youngsters self-medicating.<sup>7</sup> There are several potential risks with the use of inappropriate self-medication such as the risk adverse drug reactions, incorrect drug use, missed diagnoses, drug dependence, drug-drug, drug-food, drug-disease interactions, and overuse or toxicity are all potential dangers associated with inappropriate self-medication.<sup>4</sup> Patients have simple and unrestricted access to pharmacists for advice. Over-the-counter (OTC)

medicines and previously prescription drugs taken without consulting a current physician almost equally cause self-medication-related ADRs. It is responsible for about 4% of ADR related hospitalizations in internal medicine departments.<sup>8</sup> Pharmacists are highly trained and knowledgeable specialists with extensive knowledge of products and diseases. They provide guidance and advice to individuals, assisting them in avoiding potential drug interactions. The pharmacist's job is to deliver objective medicine information while dispensing.<sup>22</sup>

### Aim and Objectives

To investigate the perception of self-medication practices among general population and to assess the pattern of self-medication and to evaluate the influencing factors for self-medication among general public.

### METHODOLOGY

A cross sectional study was conducted online among general population. The survey was carried out by circulating online Google forms around the community which included general population. The study was carried out for the period of 6 months from March to August 2021. The study followed snowball sampling method but estimated sample was calculated and was found to be 384. The study thus included people who were above 18 years old and who were willing to participate with their consent prior the survey, people who had difficulty with the language, below 18 years and not willing to take the survey were excluded from our study survey. The framed questionnaire was validated by conducting pilot study with 20 responses. Cronbach's alpha test was done to assess the internal consistency and reliability of questions. The questions were divided into various sections consisting of demographics, knowledge, attitude and practice-based questions towards self-medication. Consent form was obtained from every participant. Data were collected using a predesigned, pretested questionnaire. The collected data was entered in Microsoft Excel. The sample size was calculated using a confidence interval of 95%. Descriptive statistical methods were used to summarize demographics with respective to the responses to questions.

The data are summarized as frequencies (n), mean, standard deviations, and percentages (%) for categorical variables. All the observed values were interpreted using pie charts and bar diagrams.

### RESULTS

A total of 524 participants were initially enrolled in this study, in which 20 people were excluded based on inclusion criteria. The survey assessed sociodemographic characteristics by asking the participants to report their gender, age, marital status, education, job status, and region of residence.

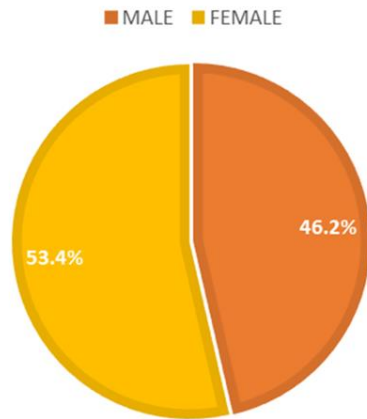
Self-medication is a common practice among general population. For safe use of medications, people are expected to have a proper knowledge, attitude, and



practice (KAP) towards self-medication and subsequent adverse drug reactions.

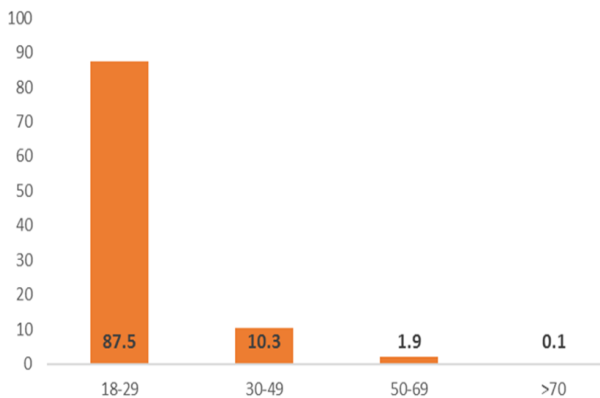
The present study was conducted among general population with the aim of determining the knowledge, attitudes, and practices of self-medication and to analyze the various factors for the engagement in that behavior.

**GENDER**



**Figure 1:** Descriptive Analysis of Gender (n= 504)

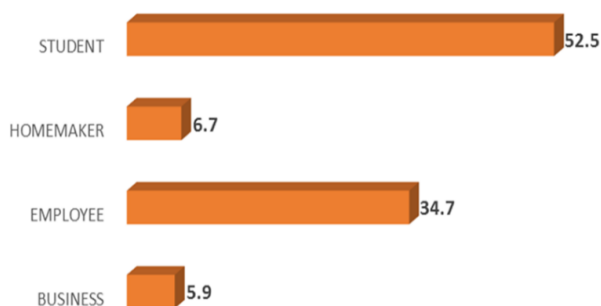
**AGE GROUP**



**Figure 2:** Descriptive analysis of age group category (n=504)

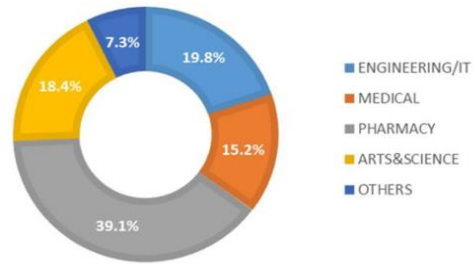
The mean age was 24.6 ±7.2 (SD) years, with a range from 18-71 years

**OCCUPATION**



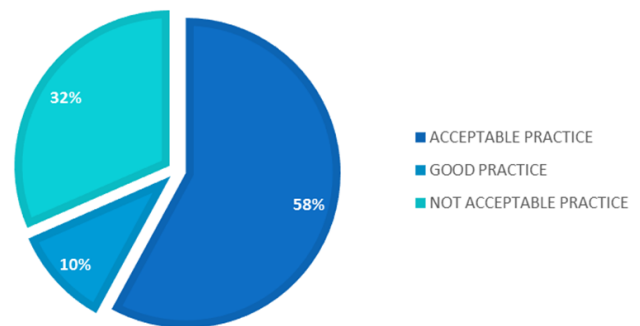
**Figure 3:** Descriptive analysis of occupation (n=504)

**PROFESSION**



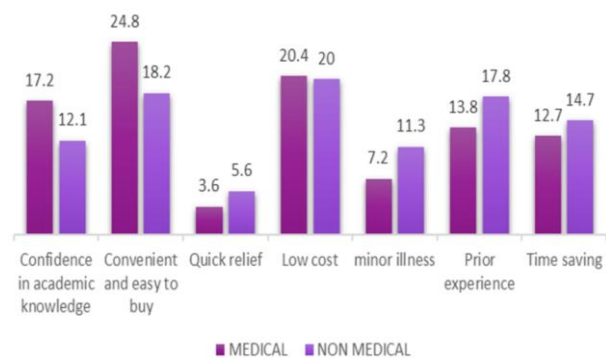
**Figure 4:** Descriptive analysis of profession (n=504)

**PRACTICE OF SELF MEDICATION**



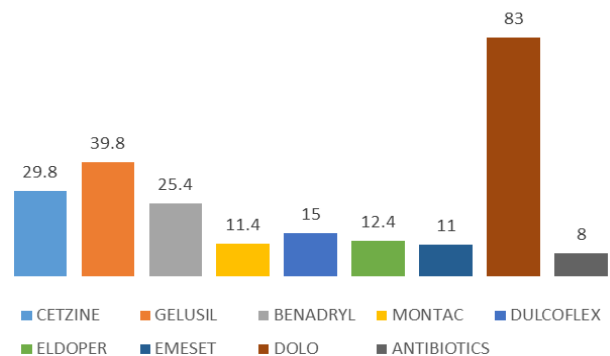
**Figure 5:** Attitude towards self-medication among general population

**REASONS FOR SELF MEDICATION**



**Figure 6:** Reason for self-medication among general population (n=504)

**COMMONLY USED BRANDED DRUGS**



**Figure 7:** Descriptive analysis of branded drugs for self-medication



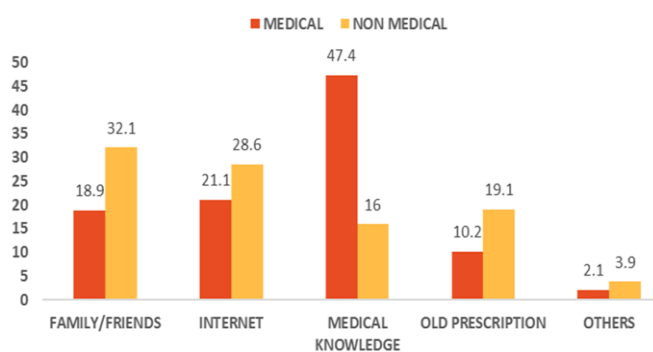
**Table 1:** Knowledge about self-medication:

Question	Options	Frequency	Percentage %
Do non-prescription drugs have side effects?	YES	434	86.11
	NO	70	13.89
Is it safe to use non-prescription drugs in pregnant women, children and elderly patients?	YES	36	7.14
	NO	468	92.8
Do you check the expiry date of the medicine?	YES	480	95.24
	NO	4	4.76
Antibiotics are used to treat: Bacterial Viral Fungal Don't know	YES	333	66.07
	NO	171	33.7
Do you think self-medication is being misused?	YES	406	80.56
	NO	98	19.44
When you buy a medication without a prescription, do you tell the pharmacist of other medication you use at home?	YES	272	53.97
	NO	232	46.03

**Table 2:** Practice of self-medication

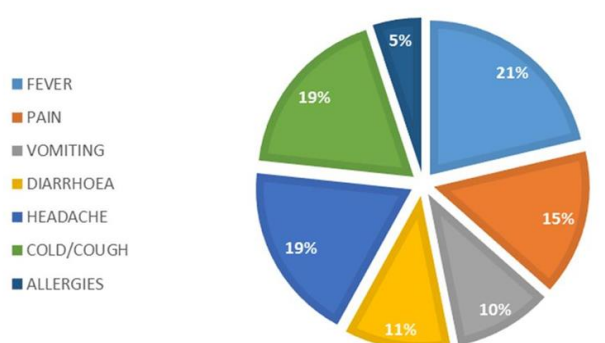
Questions	Options	Frequency	Percentage%
How long will you take the self-medication?	1-3 DAYS	465	91.87
	3-5 DAYS	34	6.75
	MORE THAN 5	7	1.39
How frequently do you purchase non-prescription drugs for yourself or your family members?	VERY OFTEN	31	6.15
	OFTEN	70	13.89
	RARELY	403	79.96
Do you take non-prescription drugs with your family member's consent?	YES	226	44.86
	NO	127	25.20
	SOMETIMES	151	29.96
Do you look at the brand name of the drug while buying non-prescription drugs?	YES	333	66.07
	NO	80	15.87
	SOMETIMES	91	18.06
Do you advice use of non-prescription drugs to others?	YES	72	14.29
	NO	254	50.40
	SOMETIMES	178	35.32
Do you take Ayurvedic, homeopathic medicines along with allopathic medicines?	YES	86	17.06
	NO	341	67.66
	SOMETIMES	77	15.28
Have you ever used self-medication along with prescribed medications (e.g. Hypertension, Diabetes)?	YES	60	11.90
	NO	412	81.75
	SOMETIMES	32	6.35
Will you share your medicines with your family members having same symptoms	YES	184	36.51
	NO	188	37.30
	SOMETIMES	132	26.19

## COMPARISON OF SOURCES



**Figure 8:** Comparison of information resources among medical and non-medical professionals (n=504)

## COMMONLY TREATED MINOR AILMENTS



**Figure 9:** Descriptive analysis of indication for self-medication (n=504)

## DISCUSSION

The present study results also revealed that most of the study participants (73.1%) use non-prescription drugs at least once in a month, in which, female respondents preferred using self-medication more than male respondents and this finding was similar to the study done by ElwalidIsameldin et al., (2020); Regina Ferreira Alves et al., (2020).

The present study showed that, young aged people (18 to 29 years) were more involved in practicing SM and this is consistent with the study findings of Sridhar SB et al(2018).

We have also observed that, students (52.5%) were the dominant users of SM.

In this study, Healthcare professionals (54.3%) practiced SM more because of their medical knowledge.

Among the study population, majority of the participants have given correct answers regarding drug safety.

From the study it is clear that, for the question regarding the "Knowledge of the role of antibiotics" more than half of the study participants (66.07%) answered that, antibiotics are useful to treat only bacterial infection and not for infection due to viruses and fungus.

Regarding safety aspects, majority of the respondents (86.11 %) in our study were accepted that non-prescription drugs do have side effects.

80.56% of the study population agrees that self-medications are being misused.

92.86 % of the study participants responded, that, it was unsafe to use self-medication in pregnant women, children and elderly patients. All these finding clearly shows that, respondents were aware about drug safety and its side effects.

From the study findings it was also clearly noticed that, 95.24% of the respondents, also looking for the expiry date of the drug before using it. Similar findings were seen in studies conducted by Jain et al. and Shah et al.

This finding may be due to the fact that majority of the study participants 467 (92.7%) in the present survey had level of education, which made them to read the label instructions on the medication including expiry date.

After assessing the responses from the participants, it was found that there was a good level of knowledge on self medication

For the purpose of assessing the attitude, the concept about self-medication was classified into three categories namely good practice, acceptable practice, and not acceptable practice.

Among 504 respondents, 68.5 % (n=345) of the respondents had a positive attitude towards self-medication and favored self-medication by saying it was an acceptable practice and good practice, while the remaining 31.5% of the respondents felt it was unacceptable.

The study data were further evaluated for appropriateness of drug usage, based on information provided by the respondents. Among the study population 78.2% of the people stated that, they have been advised by the pharmacist regarding drugs usage.

Thus, the attitude towards self-medication among general population showed that, those who favored self-medication saying or implying that it was acceptable, and showed a higher prevalence of self-medication practice.

Among 504 study participants, convenient and easy to buy (21.8%) followed by low cost (20.2%) and previous experience of treating a similar illness (15.6%) were found to be the purpose of self-practicing of medication, and among medical professionals their confidence in academic knowledge was other reason behind self-medication of drugs. While such reasons were similar to those reported in previous research on self-medication practice conducted by Fuentes Albarran K et al., and Awad Al et al.

Easy accessibility to over-the-counter drugs was the common factor reported in the study conducted by Adedapo et al. and Abid et al.3,18 Joshi et al. Their study also concluded that, economic constraints were the most common reason for opting self-medication



In the present study conducted we have observed that, analgesics and antipyretics were the most common group of drugs opted for self-medication by the respondents. This is similar to other studies conducted by Aqeel et al., Baig et al. and Komal Raj et al.

The frequent use of analgesics is fairly understandable, as there are many analgesic medications intended for mild-to-moderate pain relief are widely available and easily procured over the counter in our environment.

Majority of the respondents (n=412) stated that, they do not use non-prescription drugs along with the prescribed drugs and also 341 (67.66%) respondents stated that, they do not use allopathic medicines along with other types of medicines. 91.87% of the participants self-medicate only for 1-3 days. This practice seems to be good, and showed, the respondents awareness about the potential risks and its adverse reactions when medications were taken together.

Majority of the study population (78.2%) have correctly understood that it is inadvisable to use nonprescription medicines for a short time and use previously prescribed medications to treat the same symptoms. This study results were similar with the findings of Alves et al. (2020)

In the study we conducted, 74.8% (n=377) participants reported that, they buy nonprescription medicine with their family member's concern, It showed that, majority of the study populations, especially the youngster, were informing about self-medicating drugs they were using to their family members, and this practice may prevents drug addiction and drug over use.

Although self-medication has many pros and cons, it depends on who uses it and how it is used for self-treatment. Our study found that, the key factor for self-medication practice by the participants with medical background was their adequate pharmacological knowledge which they had gathered from their academic courses. Whereas for non-medical professionals (engineering, arts & science), internet plays a key role in providing knowledge on medications.

However, as the respondents in our study, were younger (18-29 years), they were also influenced by other sources like previous illness experiences, opinions of family members, friends and local people, and advertisement. This result resembles previously conducted research findings by Gutema, G.B., et al., (2011) and Fadare, J.O et al., (2011) on self-medication practices.

From the study findings, we have observed that, fever 361 (72%) headache 318(63.6%), and cough and cold 311(62.2%) were the most common symptoms for which self-medication was practiced. The study conducted by Gupta et al. is conforming to our study.

The probable reason for indulging in self-medication for these conditions is the fact that, they are considered minor illnesses, self-limiting in nature and doctor's consultation is not necessary for them.

## CONCLUSION

The findings of the study showed that, self-medication is a common practice and at an alarming rate of 73.2 per cent among study population. This study has revealed that, the knowledge about self-medication and the awareness of participants regarding safety and the side effects of non-prescription drugs was good. The level of attitude was found to be favorable towards self-medication especially in people with medical professional background. This is because of their confidence in their academic knowledge which also reflects in their practice towards self-medication. The practice of self-medication was common and, in some cases, inappropriate. The overall study results revealed that, the respondents including both medical and non-medical background believed that they were equipped with sufficient knowledge to remain safe, but Sometimes the people who practice medication for self-treatment may suffer from a serious illness, as the symptoms of many diseases are primarily mild but wrong diagnosis and treatment may promote serious health hazards. And at the same time, unwanted interactions between drugs, drug-dependency, and choosing inappropriate drugs because of an incorrect diagnosis may be a threatening for the health of those who opt self-medication. So, the general population seems to need more education about the risks of using medicines without physician advices.

## Limitations

- ✓ Since the study was cross-sectional, the results were dependent on the replies provided by the study participants. As a result, there could be respondent bias because respondents may not have provided their genuine answers in response to some of the questions.
- ✓ As it was an online survey, the study was not conducted in person.
- ✓ Illiterate people and people who do not have access to social media like WhatsApp, Instagram, etc., were not able to participate in this study.

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