

## KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS SELF MEDICATION IN GENERAL POPULATION: A QUESTIONNAIRE BASED STUDY

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Received on: 04/12/2020

Revised on: 24/12/2020

Accepted on: 14/01/2021

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### ABSTRACT

Self-medication can be defined as taking and consuming drugs without physician's advice for prophylaxis, diagnosis and treatment. Self-medication is widely practiced in urban as well as in rural population including developing countries like India because OTC medications are dispensed without prescription as it provides low-cost alternative for people. A cross-sectional, observational study was designed based on a self administered questionnaire which was designed by Google forms. From 216 respondents, 142 (65.74%) practiced self-medication in last 6 months out of which 35 were females and 107 were males. About 108 (50%) respondents have self-medicated themselves with an antibiotic. About 166 (76.85%) respondents agree that self medication is harmful where as 50 (23.15%) disagree from this fact. 175(81.02%) people think that OTC medications are effective and 130(60.19%) think that they are safe. People are well known about the consequences of self medication but still they self-medicate themselves for their convenience. Self-medication is a boon as well as a curse to the society.

**KEYWORDS:** Self-medication, Antibiotic resistance, Drug information leaflet.

### INTRODUCTION

Self-medication can be defined as taking and consuming drugs without physician's advice for prophylaxis diagnosis and treatment. It involves drugs that may do well or cause harm. It's a human tendency to treat themselves with herbs, potions or medications whenever they feel unwell.<sup>[1]</sup> Encouraging self-care in patients is an important health policy concept in which patient's build confidence on their ability to manage their own health.<sup>[2]</sup> But inappropriate self medication may lead to wastage of resources, increased resistance of microbes and causes serious health hazards like ADRs, dependence or prolonged hospitalization. Usually medical students self diagnose and self medicate them as they get information about drugs during their studies.<sup>[3]</sup> Unnecessary use of antibiotics leads to antimicrobial resistance. China is having the largest consumption of antibiotics in the world and very high irrational rates of antibiotic use in humans as well as animals.<sup>[16]</sup>

Self-medication is widely practiced in urban as well as in rural population including developing countries like

India because OTC medications are dispensed without prescription as it provides low-cost alternative for people.<sup>[6]</sup> There may be several factors like socioeconomic status, lifestyle, easy access to medicines and greater availability of drugs.<sup>[7]</sup> The WHO has also pointed out that self-medication can prevent and treat ailments that do not require medical consultation and results in cheaper alternative for treatment. However, the self-medication should be accompanied by proper information.<sup>[8]</sup> The pattern of usage of drugs is an important health indicator. It determines the prevalence of the disease in a particular population and also gives information about how therapeutic resources are being used.<sup>[6]</sup> The media and internet has influenced the youth for self-medication behaviour which eventually results in incorrect self diagnosis, drug interaction and use of drug for wrong indication.<sup>[9]</sup> Without knowing the repercussions of excess use of drugs, people just pop pills even for minor ailments.<sup>[10]</sup> The government should take steps to regulate self-medication. By making the availability of safe drugs with proper instructions about their use and consult physician if needed.<sup>[13]</sup>

Self-medication is usually practiced for acute conditions like headache, cough, influenza and GI disturbances. On the other hand, in some countries self-care is promoted for chronic conditions as well.<sup>[17]</sup> Some studies revealed that high level education and professional status also promotes self-medication. The most commonly self medicated drug class are analgesics and antimicrobials.<sup>[20]</sup>

## METHODOLOGY

A cross-sectional, observational study was based on a self administered questionnaire which was designed by Google forms. It included socio-demographic details, questions regarding attitude, knowledge and practice of

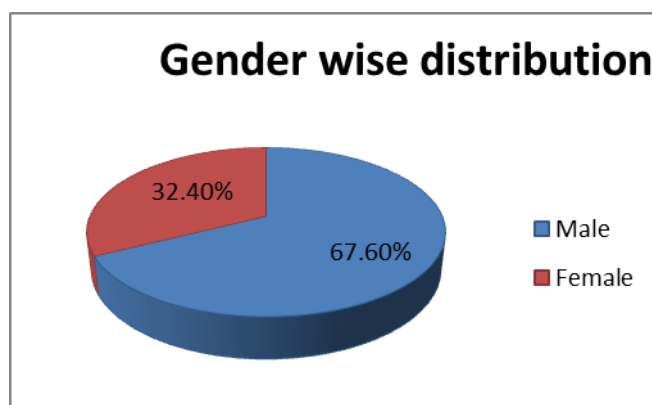
self-medication. The link of the form was circulated by snowball sampling method in which total 216 respondents filled the form. The respondents were from medical as well as non-medical field. The survey was open from 11-9-2020 to 11-11-2020. The confidentiality of the data from this survey was assured.

For this survey, certain operational terms were defined. Self medication is the use of medicinal product by the consumer which is not prescribed by the physician. The survey was descriptive and the data was summarised as counts and percentages and were represented in pie charts and bar graphs. SPSS version 12 was used for data analysis.

## RESULT

**Table 1: Sociodemographic profile of survey respondents.**

Variables	Frequency (n=216)	Percentage (%)
<b>Gender</b>		
Male	146	67.6
Female	70	32.4
<b>Age Range</b>		
16-25	160	74.07
25-35	45	20.83
35-61	11	5.09
<b>Education</b>		
Graduate	106	49.07
Postgraduate	80	37.04
Intermediate	22	10.19
Other	8	3.7
<b>Stream</b>		
Medical	142	65.75
Non Medical	74	34.25
<b>Locality</b>		
Rural	60	27.78
Urban	156	72.22



**Figure 1: Gender wise distribution.**

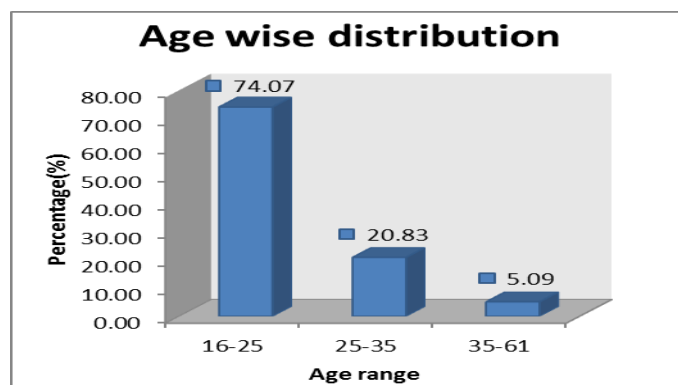


Figure 2: Age wise distribution.

A total of 216 people (n=216) responded successfully to the questionnaire. Out of which 146 (67.60%) respondents were males whereas 70 (32.40%) were females. The mean age of the respondents was  $25.08 \pm 6.19$  (Mean  $\pm$  SD) years. 160 (74.04%) respondents belonged to age group of 16-25 years, 45 (20.83%) were between 25-35 years whereas 11 (5.09%) were between 35-61 years. On the part of educational qualifications, 22 (10.19%) were intermediates, 106 (49.07%) were graduates, 80 (37.04%) were post graduates and 8 (3.7%) were higher qualifications. 142 respondents (65.75%) were from medical background whereas 74 (34.25%) were from non-medical background. 60 (27.78%) were from rural area and 156 (72.22%) were from urban area as indicated in Table no. 1 and illustrated in Figure no. 1 and 2.

### Knowledge

From 216 respondents, 108 (50%) agreed that antibiotics are safe and they can be used commonly whereas

108 (50%) have contradictory opinion. 118 (54.63%) people think that one should stop taking self medications as soon as they feel better. 100 (46.3%) people have opinion that missing or skipping a single dose of antibiotics may lead to antibiotic resistance. The advantages of self-medication are Quick relief 60 (27.78%), Convenient use 51 (23.31%), Economical 39 (18.05%), time saving 34 (15.74%) and easy to use 32 (14.81%). The most common disadvantage of self-medication as per the respondents was medication error (21.75%) which includes wrong drug, wrong dose, wrong diagnosis and wrong administration followed by ADR 47 (21.29%), side effects 42 (19.44%) and others 28 (12.98%). About 149 (68.98%) people answered correctly that Paracetamol is used for both fever and pain whereas others answered for fever 59 (27.32%) and for pain 8 (3.7%). Details are given in Table no. 2.

Table 2: Questions for assessment of knowledge of respondents.

<b>Q.1 Antibiotics are safe; Hence they can be commonly used.</b>		
<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
Agree	108	50
Disagree	108	50
<b>Q.2 One should stop self medication as soon as patient feels better.</b>		
<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
Agree	118	54.63
Disagree	98	45.37
<b>Q.3 Skipping one or two doses not contribute to the development of antibiotic resistance.</b>		
<b>Variables</b>	<b>Frequency</b>	<b>percentage</b>
Agree	100	46.3
Disagree	116	53.7
<b>Q.4 Paracetamol is used for-</b>		
<b>Variables</b>	<b>Frequency</b>	<b>percentage</b>
Both	149	68.98
Fever	59	27.32
Pain	8	3.7
<b>Q.5 Self medication is advantageous because-</b>		
<b>Variables</b>	<b>Frequency</b>	<b>percentage</b>
Quick relief	60	27.78
Convenient use	51	23.61
Economical	39	18.05

Time Saving	34	15.75
Easy	32	14.81
<b>Q.6 According to you, What is the disadvantage of self medication?</b>		
<b>Variables</b>	<b>Frequency</b>	<b>percentage</b>
Medication Error	47	21.75
Adverse drug reaction	46	21.29
Side effects	42	19.44
Resistance	16	7.41
Addiction/Drug interaction	13	6.01
I Don't Know	13	6.02
Others/No Effect	28	12.98
Blank	11	5.1

### Attitude

About 166 (76.85%) respondents agree that self medication is harmful where as 50 (23.15%) disagree from this fact. 175(81.02%) people think that OTC medications are effective and 130(60.19%) think that they are safe.

About 53(24.53%) people agree from the fact that costly drugs are more effective. 171(79.17%) people have bought medicine without prescription and 45(20.83%) have never done so. The most common fear form self medication is adverse drug reaction 117(54.17%) followed by wrong diagnosis 53(24.53%), wrong drug

20(9.26%) and wrong dose 19(8.8%). The respondents acquiring medical knowledge were asked about the changes in their self-medicating habits. 82(37.96%) said that they are more careful in taking medicines and 78(36.12%) prefer to get a prescription from physician rather than self medicating. On the other hand, 26(12.03%) are more confident in self prescribing and 17(7.88%) are afraid of adverse effects. 171(79.17%) respondents think that self-medication is acceptable in some circumstances whereas 45(20.83%) people think that it is unacceptable in all circumstances as detailed in Table no.3.

**Table 3: Questions for assessment of attitude of respondents.**

<b>Q.7 Is self medication harmful?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	166	76.85
No	50	23.15
<b>Q.8 Are OTC medications effective?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	175	81.02
No	41	18.98
<b>Q.9 Are OTC medications safe?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	130	60.19
No	86	39.81
<b>Q.10 Are costly drugs more effective?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	53	24.53
No	163	75.47
<b>Q.11 Have you ever bought medicines without prescription?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	171	79.17
No	45	20.83
<b>Q.12 Most prominent fear from self medication-</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Adverse drug effect	117	54.17
Wrong diagnosis	53	24.53
Wrong Drug	20	9.26
Wrong Dose	19	8.8
Others	7	3.24
<b>Q.13 What changes do you observe in your self- prescribing habits if you are acquiring medical knowledge?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
I am more careful in taking medicines	82	37.96

I prefer to get a prescription	78	36.12
I am more confident in self prescribing	26	12.03
I am afraid of adverse effects	17	7.88
No difference in my attitude	7	3.24
I encourage self medication among family and friends	6	2.77
<b>Q.14 According to you, self medication is:</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Acceptable in some circumstances	171	79.17
Unacceptable in all circumstances	45	20.83

### Practice

105(48.62%) people take medication on their own when they have a common illness. Out of 216 respondents, 142 (65.74%) practiced self-medication in last 6 months out of which 35 were females and 107 were males. About 108 (50%) respondents have self-medicated themselves with an antibiotic. 35(32.4%) people had taken Azithromycin whereas 10(9.25%) had Ofloxacin and 7(6.48%) had gone for Cefixime. When they were asked for reason for their self medication, Cough, cold and sore throat 116(28.23%) was the most answered one followed by fever 112(27.25%) and headache 80(19.47%). The

reason mentioned for not consulting doctor and self medicating themselves were minor illness 100(46.3%), confidence on your knowledge about medicine 47(21.76%) and clinic far away from home 7(3.24%). On scale of 5, the effectiveness of self medication is found to be 5 in 18(8.33%), 4 in 66(30.56%), 3 in 71(32.87%), 2 in 41(18.98%) and 1 in 20(9.26%) respondents. Nearly 179(82.87%) people obtain medicines for self-medication from private pharmacy and from general stores 34(15.74%). It is very great to observe that 174(80.55%) people read Drug Information Leaflet before self-medication. Details are given in Table no. 4.

**Table 4: Questions for assessment of practice of respondents.**

<b>Q.15 What do you do when you have a common illness?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Take medication on your own	105	48.62
Go to primary health care center	72	33.33
Go to private hospital/clinic	32	14.81
Consult a friend	7	3.24
<b>Q.16 Have you taken self medication in last 6 months?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	142	65.74
No	74	34.26
<b>Q.17 If yes reason for self medication-</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Minor illness	100	46.3
Confidence on your knowledge about medicines	47	21.76
High fees of doctors	8	3.7
Clinic far away from home	7	3.24
Time saving	6	2.77
Friends or relative advice	4	1.86
Old prescription	4	1.86
Others	5	2.31
Blank	35	16.2
<b>Q.18 For which disease you have taken self medication?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Cough , cold and sore throat	116	28.23
Fever	112	27.25
Headache	80	19.47
Acidity	60	14.6
Stomach ache	23	5.59
Menstrual symptoms	11	2.68
Dental pain	3	0.72
Mouth ulcer	2	0.48
Diarrhea	2	0.48
Birth control	1	0.25
Vomiting	1	0.25

Eye infection	0	0
Skin disease	0	0
Ear pain	0	0
<b>Q.19 Have you ever self medicated yourself with an antibiotic?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	108	50
No	108	50
<b>Q.20 If yes which antibiotic was used?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Azithromycin	35	32.4
Amoxicillin and Clavulanic acid	27	25
Ofloxacin	10	9.25
Cefixime	7	6.48
Ciprofloxacin	5	4.63
Ceftriaxone	2	1.86
Metronidazole	2	1.86
Cefodoxime	2	1.86
Norflox	1	0.92
Penicillin	1	0.92
Not known	16	14.82
<b>Q.21 On scale of 1-5 what is the effectiveness of self medication?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
1	20	9.26
2	41	18.98
3	71	32.87
4	66	30.56
5	18	8.33
<b>Q.22 From where do you obtain the medicines?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Private pharmacy	179	82.87
General store	34	15.74
Friend or Neighbor	2	0.93
Other	1	0.46
<b>Q.23 Do you read package insert or drug information leaflet before self-medication?</b>		
<b>Variables</b>	<b>frequency</b>	<b>percentage</b>
Yes	174	80.55
No	42	19.45

## DISCUSSION

In present study, 65.74% respondents practiced self-medication for different indications whereas in a study conducted by Banerjee I et al (2012) [2] 57.05% respondents practiced self-medication. In our study it was found that males 68.30% had practiced more self-medication as compared to females 31.69%. Another study by Kumar N et al (2013) [9] 46.13% females and 32.5% males practiced self-medication.

In present study most of the respondents were graduates 106(49.07%) out of which 85(80.18%) had practised self medication while in a study by Benameur et al (2018) [5], 222(94.5%) respondents were graduates out of which 125(56.8%) practised self-medication. Hence, it is a wrong perception that education leads to decrement in self-medication practices.

In our study, approximately 80% of the respondents had bought medicines without prescription from local

pharmacy or general stores whereas in a study by Kasulkar A et al (2015) [8], 74.6% respondents got medicines without prescription from pharmacy. 81.02% people observed that OTC medications are effective and 60.19% people think they are safe that's why people self-medicate them so frequently. About one-fourth of the respondents think that costly drugs are more effective. This perception is very wrong because generic products are bioequivalent to the branded products. Hence, cost is never a measuring aspect of effectiveness of the drugs. The respondents acquiring medical knowledge i.e. 12.03% felt that they are more confident while self-medicating themselves whereas in a study by Bhatia MK et al (2017) [10] 28.3% respondents felt self-confident.

48.62% respondents take medications on their own when they have a common illness. A total of 142 respondents have taken self-medication in last 6 months in which 35 were females and 107 were males. Minor illness (46.3%) is the most common reply of the respondents when they were asked for the reason of self medication which is

similar to the reason in a study by S.Thandani et al (2013)<sup>[20]</sup>. These illnesses appear to be mild but misdiagnosis and wrong treatment may lead to serious health issues. About 47 (21.76%) respondents were having confidence on their knowledge about medicine. These were the respondents acquiring medical knowledge. But insufficient and incomplete knowledge sometimes leads to harmful health consequences. Azithromycin was the most used antibiotic for self-medication followed by amoxicillin + clavulanic acid. Most of the medications are obtained from private pharmacy i.e. 82.87% while in a study by Ahmad A et al (2014)<sup>[3]</sup> 44.8% medicines were obtained from pharmacy. This practice should be controlled and managed by the regulatory authorities of India. 174(80.55%) participants having a habit of reading the Package insert leaflet before the administration of the drug. This is a positive habit which can reduce the medication errors and side effects as well to some extent.

## CONCLUSION

The study has concluded that the people are having average knowledge about the medications. But their perspective about the safety of medication is not satisfactory. Not only have the respondents from non-medical field but people from medical field practiced self-medication to a great extent. People are well known about the consequences of self medication but still they self-medicate for their convenience. Self-medication is a boon as well as a curse to the society.

**Abbreviations used:** OTC-Over-the-counter, WHO-World Health Organization, ADR-Adverse Drug Reaction, DI- Drug Interaction.

**Acknowledgement:** A special thanks to Teerthankar Mahaveer college of Pharmacy for giving us opportunity to do our project in such a renowned Hospital. Eventually we are extremely grateful to all those who directly or indirectly helped us in successful completion of this project.

**Conflict of Interest:** Nil.

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