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Review Article

SELF MEDICATION: CURRENT CHALLENGE TO FIGHT AGAINST COVID-19 IN INDIA

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ABSTRACT

Common cold, cough and fever are the initial symptoms of COVID 19, if the people opt the self medication for the treatment for the initial symptoms, that results delayed diagnosis of COVID-19. The present study was carried to find out the percentage of people taking self medication who are probably associated with COVID-19. This type of study will provide useful data to policy makers and regulatory authorities for streamlining the fight against COVID-19. A cross sectional study was performed in 10 urban residential colonies of Mandsaur, a district headquarters of Madhya Pradesh (India). The study was performed using Google forms during 22-25 May 2020 during lockdown. The language of the questionnaire was Hindi. The sample size was calculated using Chi square formula with the level of a precision of 0.05; the minimum sample size was calculated to be 495. There were total 495 subjects participated in the survey, out of which 65.46% were males and 34.54% were females. Among all subjects, 43.4% were graduates and 20.6% were post graduates, and rests were intermediate or less educated. In terms of occupation, 49.4% subjects were doing their own business, whereas about 37% were associated with government or private job. Male subjects (68.2%) preferred more self medication then female subjects (57.3%) with a p-value of 0.015. Subjects with intermediate or below education were found practicing more self medication than graduates and post graduates. Less earning participants such as daily wages workers, unemployed persons and students preferred more self medication. Majority of subjects were using self medication for the treatment of symptoms like common cold, fever and cough. But in current situation of COVID-19 pandemic, we suggest to avoiding self medication and follow instructions of Government authorities, if you found symptoms like common cold, fever and cough or suspect of infection of COVID-19.

Keywords: Self medication, COVID-19, India, Common cold, Cough, Fever

1. INTRODUCTION

Self medication is the major health issue today in developing country like India. It may be defined as the use of medication (modern/ traditional) by the patients to treat self defined disorders or symptoms [1]. It also includes the selection of medicines for chronic diseases such as diabetes, blood pressure etc. by the patient, after an initial prescription and diagnosis by the physician [2]. The purchase of medicines from medical stores/ pharmacist for common cold, cough, fever like diseases as OTC (Over the counter) product is also considered as self medication [3]. According to WHO, self medication is the selection and use of medicines by persons to treat self-recognized illness and symptoms. This broadly includes old prescription, referring prescription, consulting friends and acquiring medication without prescription, consulting friends and relatives, neighbor's social group sharing medicines [4, 5]. Self medication seems to be positive for pharmaceutical industries as their products get more exposure for the public, medical shop owner/ pharmacists are able to sell more products as OTC products as well as they are able to utilize their skills more effectively with patients. However, self medication leads to high risk, which may leads to inappropriate results [6-10]. Use of self prescribed antibiotics might lead to drug resistance [11]. Studies also reported that care may be delayed due to self medication resulting in a delay in diagnosis of underlying conditions [12]. According to WHO, COVID-19 is the infectious disease caused by the most recently discovered corona virus. Corona viruses are a large family of viruses which may cause illness in animals or humans. The severity of COVID-19 symptoms can range from very mild to severe. Some people become infected but only have few symptoms or no symptoms at all. The common symptoms of COVID-19 are fever, dry cough, tiredness observed in mildly affected persons

whereas severity of COVID 19 may lead to aches and pains, nasal congestion, sore throat or diarrhea. COVID-19 is now a pandemic affecting many countries globally [13, 14]. People who are older or who have existing chronic medical conditions, such as heart disease, lung disease, diabetes, cancer, severe obesity, chronic kidney or liver disease, or who have compromised immune systems may be at higher risk of serious illness [15]. However anyone can catch COVID-19 and become seriously ill. In India only few studies were conducted to assess the magnitude of self medication practice. Previous all studies revealed that practice of self medication is very common for treatment of common cold, cough and fever. The initial symptoms of COVID 19 are also common cold, cough and fever and if the people opt for self medication for the treatment then it may result in delayed diagnosis of COVID-19. With this background, the present study was carried out to find percentage of people taking self medication and its probable association with COVID-19. A study of such nature will provide useful insights to policy makers and regulatory authorities to streamline the fight against COVID-19.

2. MATERIAL AND METHODS

2.1. Study setting and sample size

A cross sectional study was performed in 10 urban residential colonies of Mandsaur, a district headquarters of Madhya Pradesh (India). The study was performed using Google forms during 22-25 May 2020. The sample size was calculated using Chi square formula with the level of a precision of 0.05, the minimum sample size was calculated to 495 after adding a no response of 10%. For identifying subjects to be covered from each of ten colonies probability proportional to size sampling was used. The subjects were selected by systematic random sampling [16].

2.2. Method of data collection

As the duration of data collection was lockdown so it was collected online via Google forms. The questionnaire presented was in Hindi language as it is easy accessible for all the subjects. Prior consent checkbox was also in the starting of questionnaire. However, ethical committee approval was not obtained because study is purely based on history of self medication and we were going to correlate it with a COVID 19 pandemic. The questions asked was socio-demographic details (age, gender, education, occupation, dependency on head of family), family doctor, self medication for common cold, cough and fever or purchasing medicines without prior consultation with a certified physician.

2.3. Data analysis

Data were presented in percentage and were analysed using Statistical package for Social Sciences (SPSS) version 20**.**

3. RESULTS

3.1. Socio-demographic characteristic

There were totally 495 subjects out of which majority were males with 65.46% and 34.54% female. 43.4% among them were graduate and 20.6% were post graduate. In terms of occupation, 49.4% members were doing their own business whereas about 37% were doing Job (Private/Government) as shown in table 1.

Table 1: Distribution of the subjects according to socio-demographic characteristic

Socio-demographic Factors	Number	Percentage
Age in Years		
10-19	0	0
20-29	30	06.06
30-39	153	30.90
40-49	184	37.17
50-59	68	13.73
Above 60	60	12.12
Gender		
Male	324	65.46
Female	171	34.54
Educational Status		
$< 10^{th}$	28	5.6
10^{th}	34	6.8
12^{th}	116	23.4
Graduate	215	43.4
Post Graduate	102	20.6
Occupation		
Govt. Job	21	4.2
Private Job	165	33.3
Business	245	49.4
Daily wager	4	0.8
Student	24	4.8
House wife	21	2.8
Unemployed	15	3.0

Table 2: Subjects opting for self medication under various parameters

Socio-demographic Factors	Family Doctor for regular consultation				Self Medication with your own/ home remedies/ medical shop without prescription for aliments like headache, fever, cold and cough			
	Yes	No	χ^2 Value	P Value	Yes	No	χ^2 Value	P Value
Age in Years								
10-19	0	0	12.5419	0.013	0	0	2.2628	0.687
20-29	2	28			21	09		
30-39	24	129			102	51		
40-49	36	148			119	65		
50-59	20	48			39	29		
Above 60	18	42			38	22		
Gender								
Male	71	253	1.7043	0.191	221	103	5.8035	0.015
Female	29	142			98	73		
Educational Status								
< 10^{th}	0	28	47.0582	<0.00001	21	07	5.3636	0.034
10^{th}	1	33			22	12		
12^{th}	5	111			80	36		
Graduate	62	153			136	79		
Post Graduate	32	70			65	37		
Occupation								
Govt. Job	8	13	27.996	0.000012	14	7	17.5069	0.0015
Private Job	20	145			102	63		
Business	69	176			147	98		
Daily wager	0	4			4	0		
Student	0	24			22	2		
House wife	3	18			17	4		
Unemployed	0	15			13	2		

Out of 495 subjects, 61.1% did not have any family doctor for regular consultation. 64.44% (319 out of 495) of subjects answered in favor of self medication with home remedies for diseases such as headache, fever, cold and cough. Gender also matters because male (68.2%) preferred more self medication then female (57.3%) with a p value of 0.015. Young subjects with age group of 20-29 have more habit for self medication *i.e.* about 70%, whereas overall average is 64.44% as seen in fig. 1 and table 2. Significant association was also found with educational status of subjects; less educated *i.e.* 12^{th} and 10^{th} pass subjects practicing more self medication then graduates and post graduates *i.e.* about 72%, whereas graduates practicing 63% (fig 2). Occupation also significantly affect self medication *i.e.* less earning participants such as daily wager, unemployed, students preferred more self medication as shown in fig. 3, table 2.

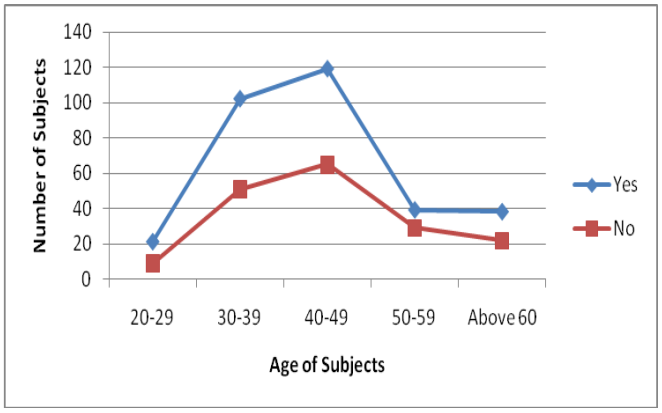

Fig. 1: Relation between age of subjects and self medication

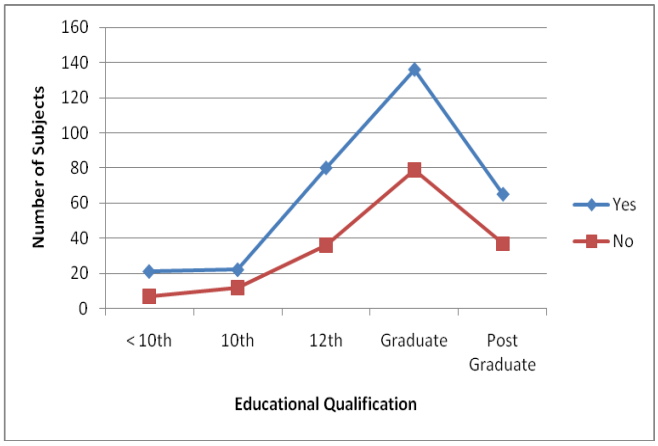

Fig. 2: Relation between educational qualification of subjects and self medication

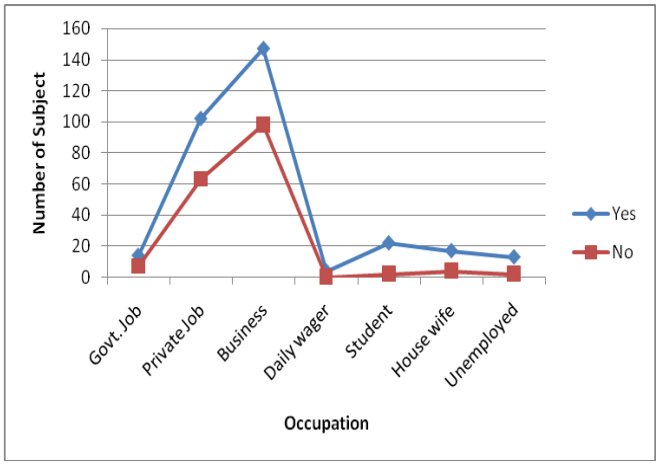

Fig. 3: Relation between occupation of subjects and self medication

4. DISCUSSION

The study was conducted in 10 colonies of Mandsaur district of Madhya Pradesh. 64.44% of peoples showed the prevalence towards self medication for ailments such as common cold, cough and fever. Kumar et al., [17] also reported that 74.9% of peoples in urban Delhi region preferred allopathic medicines for common ailments. Latest survey by renowned news paper also reported that paracetamol and antibiotics are common OTC medicine used for the treatment of fever and common cold, cough respectively [18]. Previous studies by Keche et al., [19] also reported that NSAIDs and antibiotics are common allopathic drugs used as self medication for treatment of fever, cough and cold. As per WHO, the common symptoms of COVID-19 are fever, dry cough, tiredness [13, 14]. So our main concern is that if a person is infected with COVID-19 and he/ she tried to suppress initial mild symptoms such as fever, dry cough using self medication then there is a possibility/ probability of internal damage of lungs by COVID-19 virus and it may lead to death. Recent similar cases were reported in Indore, about 200 Km from Mandsaur where Panjwani S tried self medication and wasted three crucial days before his hospitalization and in the end he died [20]. Similarly, in Faridabad a chemist (45 year old) self medicated himself with antibiotics for the treatment of initial symptoms of COVID-19, however he didn't get any relief from the medication and symptoms get aggravated [21]. In our study also, self medication practice was significantly observed more in younger persons with occupation such as unemployed, daily wagers and students so they are more prone to be affected due to novel corona virus. In the same manner peoples are self medicated with hydroxylchloroquine after the announcement of US President Mr Donald Trump that Hydroxychloroquine is an effective medicine to fight against COVID-19 [22]. In Guwahati, a doctor died of heart attack as he continuously consumed anti-malarial drug hydroxylchloroquine for the treatment of Corona virus. The Indian Council of Medical research (ICMR) also warned that the drug should not be taken as self medication to prevent or cure [23]. A man and his wife died in Arizona after they ingested chloroquine phosphate- an aquarium cleaning product to fight against Corona virus [24]. According to Indian council of Medical research (ICMR) hydroxychloroquine has some most common side effects such as hypersensitivity, retinal problem which may cause permanent damage to vision and irregular heart rate, who already suffer from arrhythmia, blood pressure problems etc. Use of hydroxylchloroquine may reduce the age upto 35 years, so it is advised to use drugs under proper medical supervision [25, 26]. As older people (above 50) suffered more from heart diseases [15] so, probability of them to be effected with hydroxychloroquine is more; our result also revealed that peoples with age above 50 were also taking self medicines and they may take hydroxychloroquine as a preventive measure. According to WHO some patients suffered from Corona virus are Presymptomatic, who shows symptoms 2-3 days after infection or asymptomatic which don't show any symptoms at all. Here also there is a possibility that self medication may not appear but internal it aggravate [13, 14]. The

study/survey has its own limitations. Despite that if someone is having symptoms like fever, dry cough and difficulty in breathing; they should seek qualified medical practitioner attention and avoid self medication. Follow the guidelines of your local authority, State authority and National authority. This will protect you and help prevent spread of corona virus in the community.

5. CONCLUSION

It has been concluded with a note that majority of respondent are using self medication for the treatment ailments like common cold, fever and cough. But in current situation due to potential risk with self medication, we herewith suggested all to avoid self medication and follow instructions of government authorities and avoid self medication.

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