



## PREVALENCE AND PATTERN OF SELF MEDICATION AMONG COMMUNITY DWELLERS

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### ABSTRACT

**Introduction:** The World Health Organization (WHO) states that self-medication is the practice where, individuals treat their illness and conditions with medicines that are approved and available without prescription, and which are safe and effective when used as directed. The problems due to self-medication are magnified when non-OTC drugs are also used for self-medication. Both general drug knowledge and access to prescription medications are potential factors for self-prescribing.<sup>[18]</sup> **Materials and methods:** A prospective observational study was conducted from December 2016 to March 2017 in the community areas of the city of Vijayapura to assess the knowledge, awareness and attitude of self-medication practices, with a sample size of 326. A door-to-door survey was carried out. The survey was carried out on an individual basis after taking an informed consent from the respective participant. To collect the data a structured questionnaire was prepared, after an extensive literature review. The questionnaire contains three categories of questions based on knowledge, attitude and practice. **Results:** The study sample size was 330, among which 186 were self-medicating participants whereas 144 were not self-medicating. Prevalence of self-medication in total was 56.4%, among which 47.5% were males and 61.4% were females. The age group that practiced self-medication the most and least were 21-35(43.5%) and >65 (2.7%) respectively. The knowledge about self-medication was highest among the age group of 21-35 with a mean knowledge of 6.8 and the attitude for the practice of self-medication was seen the highest among the age groups of 21-35 and 13-20 with a mean score of 6.3. The participants holding higher education (71%) practiced self-medication more often whereas the participants who were uneducated practiced self-medication the least (9.7%). Among 186 participants 5 of them reported of having an adverse drug reaction due to the medicines they consumed. **Conclusion:** The extent and depth of knowledge regarding self-medication in community needs to be assessed.

**KEYWORDS:** WHO, Self-medication, over the counter, Questionnaire.

### INTRODUCTION

Self-medication can be defined as obtaining and consuming one (or more) drug(s) without the advice of a physician either for diagnosis, prescription or surveillance of treatment. Pharmacists and pharmacy attendants play a crucial part in fostering self-medication among the public (SHYAM, PRIYANKA, MILLI, 2014). Easy availability of a wide range of drugs and inadequate and inequitable health services result in increased proportions of drugs to be used as self-medication in developing countries like India (MANISH, RAHUL, DHRITI, 2015). In a developing country like India, self-medication is an important aspect in health-care delivery system. The key that leads to this concept is preparing the individuals to be responsible for their own health through health education and making them understand the concept that professional care for minor ailments is not always necessary.<sup>[8]</sup> Patients can get the desired benefits without overburdening the healthcare delivery system especially in rural and remote areas,

hence the WHO promotes the practice of responsible self-medication. But self-medication can also be considered lethal for its users, because it has both favorable and harmful effects (MANISH, RAHUL, DHRITI, 2015). Self-medication has advantages like it facilitates better use of clinical skills, increases access to medication to the needy, and also to better utilization of funding in public health program. Some of the major issues concerning self-medication are, increased resistance of pathogens and serious health hazards such as adverse reaction and prolonged suffering. Self-medication is also associated to antibiotic resistance. The countries that reported high prevalence of self-medication with antibiotics also reported high levels of antibiotic resistance. It is one of the important factor connected to development of antimicrobial resistance. Self-medication is more familiar among women, young people, individuals of low socio-economic status (SES), sufferers of chronic ailments and psychiatric conditions (ROULET, ASSERAY, FOUCHER, 2012). Medications

may be approved by the national drug regulatory authority as being safe for self-medication but these are normally prescribed for the prevention or treatment of minor ailments or symptoms, which usually do not justify medical consultation.

Self-medication is an age-old practice among general population. Some of the reasons that are responsible for the rising trend of self-medication are, the urge of self-care, sympathy towards a sick family member, lack of proper health services, inaccessibility to health services, poverty, ignorance, misbelieve, extensive advertisement and availability of drugs in other than medical shops. There is a risk of interaction between active ingredients of OTC drugs and prescription medicines, as well as increased risk of worsening of existing condition. Preparations that contain a combination of drugs or 'hidden' classes of drugs and food supplements or tonics of doubtful value were commonly used in India (SHYAM, PRIYANKA, MILLI, 2014). The main contribution to this view was the recognition of the responsibility of individuals for their own health and awareness, also the fact that professional care for minor ailments is often unnecessary. Development in a person's general knowledge, level of education and socioeconomic status form a reasonable basis for successful self-medication. New drugs with specific pharmacological action, such as histamine H<sub>2</sub>-receptor antagonists, non-steroidal anti-inflammatory compounds (NSAID) and nicotine preparations for cessation of smoking, have been successfully reclassified from prescription to non-prescription status in various countries. Regulatory assessment of a change from prescription to nonprescription status should be based on medical and scientific data on safety and efficacy of the compound and rationality in terms of public health (MARAK ET AL, 2016). Unlike other aspects of self-care, self-medication involves the use of drugs and drugs have the potential to do good as well as cause harm. This is particularly important in countries where there is a lack of enforcement of strict regulations that leads to the availability of prescription medicines as over the counter medicines. This eventually results in a widespread use of such medications which could also be associated with serious adverse effects (SHIVARAJ, ET AL, 2014). Several studies have reported that irrational self-medication results in wastage of resources and may also result in serious health hazards such as adverse drug reactions, prolonged suffering and drug dependence (SHIVARAJ, ET AL, 2014).

Improving the knowledge and creating awareness about self-medication, medication use and safety results in its rationale use and thus limits emerging problems like microbial resistance and drug related injuries. This study will also assess the circumstances of practicing self-medication and identifying the loopholes and outcomes associated with it. This study also addresses the injuries related to self - medication and evaluates its consequences, and outcomes. This study also helps us to

find various drug, balm, and ointment addiction that the community dwellers suffer from.

The objectives of the study were to evaluate the use and extent of self-medication practice among community dwellers, to assess the knowledge attitude and practice of community dwellers regarding self-medication, to identify the contributing factors that prompt self-medication and to assess the outcomes, to evaluate a pharmacist's role in addressing the problem of self-medication and its consequences.

## METHODOLOGY

The study was conducted for a period of six months in 2017. The location was in the community areas in the city of Vijayapura, Karnataka. Sample size was determined as 330. Participants above the age of 12 with consent were included and children below the age of 12 were excluded due to low level of accessibility, compliance and non-cooperation. Participants with intellectual, psychiatric and emotional disturbances that could influence the reliability of their responses were barred from the study. The study was based on the prevalence of the pattern of self-medication and safe use of drugs in a community. Data was collected directly from the community dwellers. A prospective observational study was carried out in the community area of the city of Vijayapura to assess the knowledge, awareness and perception of self-medication practices. A door-to-door survey was carried out during the period of six months 2017, after taking an informed consent from the respective participant. To collect the data a structured questionnaire was prepared, after an extensive literature review. The questionnaire contained three categories of questions based on knowledge, attitude and practice. For continuous variable, the summary statistics of N, mean, standard deviation (SD) were used. For categorical information, the number and percentage were used in the data summaries. Chi-square ( $\chi^2$ ) test was employed to determine the significance of conflicts between radical for categorical data. The difference of the substance of analysis variables was tested by unpaired t test and ANOVA. If the p-value was < 0.05, then the resultant will be considered to be significant. Data were analyzed using SPSS software v.23.0

## RESULTS

A total number of 330 participants were included in our study, among which 186 were self-medicating participants whereas 144 were not self-medicating. Prevalence of self-medication in total was 56.4%, among which 47.5% were males and 61.4% were females, from which it was observed that females practice self-medication more than males. When considering age as a factor the highest age group that practices self-medication are 21-35(43.5%) years, after which came the age group of 13-20(36%), followed by the age group of 36-50(12.4%), later came the age group of 51-56(5.4%), and the age group that self-medicated the least were >65 (2.7%). It was also observed that the knowledge about

self-medication was highest among the age group of 21-35 with a mean knowledge of 6.8, followed by the age group of 13-20 with a mean knowledge of 6.1, after which came the age group of 36-50 with a mean knowledge of 5.4, followed by the age group of 51-65 with a mean knowledge of 5.7, followed by the age group of >65 which has a least knowledge about self-medication with mean knowledge of 5. Regarding the attitude for the practice of self-medication was seen the highest among the age groups of 21-35 and 13-20 with a

mean score of 6.3, followed by the age group of 36-50 with a mean score of 6.2, followed by the age group 51-65 with a mean score of 5.8, and lastly came the age group with mean score of 5.4.

**Table 1: Prevalence of self-medication.**

Male	47.5%
Female	61.4%
Total	56.4%

**Table 2: Distribution of Age of study population.**

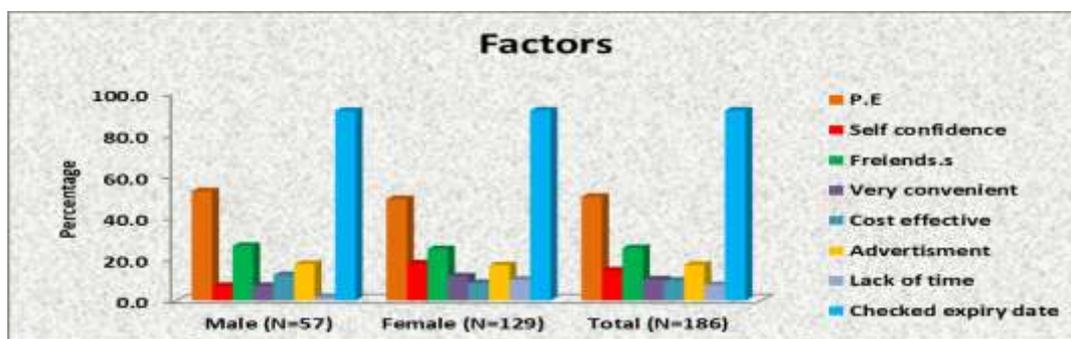
Age(Yrs)	Self medication group		Control group		Total	p avlue
	N	%	N	%	N	
13-20	67	36.0	27	18.8	94	<0.001**
21-35	81	43.5	46	31.9	127	
36-50	23	12.4	38	26.4	61	
51-65	10	5.4	29	20.1	39	
>65	5	2.7	4	2.8	9	
Total	186	100.0	144	100.0	330	

Note: \*\*significant at 1% level of significance (p<0.01)

**Table 3: Distribution of Sex of study population.**

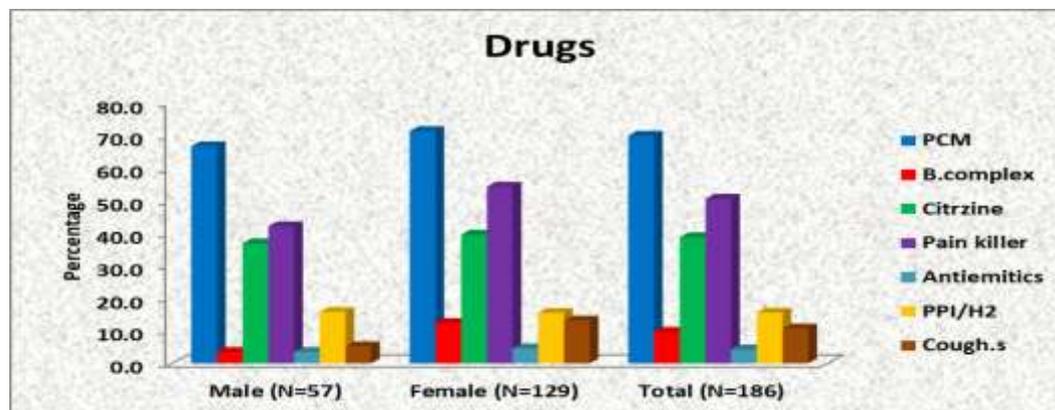
Gender	Self medication group		Control group		Total	p avlue
	N	%	N	%	N	
Male	57	30.6	63	43.8	120	0.014*
Female	129	69.4	81	56.3	210	
Total	186	100.0	144	100.0	330	

Note: \*significant at 5% level of significance (p<0.05)



**Figure 1: Factors stated by Respondents for Self-medication.**

(P.E- previous experience, friend's s- friend's suggestion)



**Figure2: Drugs/Drug Groups Used by the Respondents for Self-medication.**

(PCM-paracetamol, PPI/H2- proton pump inhibitors and histamine 2 blockers, cough.s-cough syrup)

## DISCUSSION

As mentioned above females self-medicate more than males in our study. As demonstrated by Gupta *et al* (2011). 48.9% of the sampled male population and 59.75% of female population practice self-medication which is comparable to the results of study by Solomon Worku *et al* (2003) in which females self-medicated in larger number. The association between the use of self-medication and female gender is statistically significant. As we can see the results of our study compared with this study is the same, females self-medicate the most. The reason for higher incidence of this practice in women might be their limited movement outside the house and an inferior status in the household. This leads to decrease in the propensity to take expert help and resort to self-medication.

When considering age as a factor the highest age group that practices self-medication are 21-35(43.5%) years, when compared to the study by Gupta *et al* (2011), highest proportion (43.5%) of individuals practicing self-medication amongst the study population is found in the age group of 18-35 years which is similar to that found in a study by Shankar PR *et al* (2002) in Nepal (54%). This association is statistically significant. The purposes behind higher pervasiveness in the youthful populace may be the joyful, chance inclined state of mind of the adolescent and simple access to a plenty of data. A level of significance is present which means that only 1.4% is due to the chance factor, 98.6% is due to the association of the variables, however if the level of significance is not present it does not mean that the results obtained are wrong, but the presence of significance gives more value to the result. If we relate to the reasons or influences that started self-medication according to age factor then the age group between 13-20 practice self-medication due to their previous experiences, so is the same with other all age group the main factor is previous experiences.

As here we can notice that the females are more prone to treat their pain by self-medication also indicates that they do this based on the previous experience(48.8%) and friends suggestions(24.2%) as it is seen almost all females use medication for pain, some females also self-medicating themselves because they are confident (17.8%) about the medicine they consume that it will cure them without thinking about other consequences which might lead to other adverse effects or even addiction problems and their pain threshold may decrease due to continuous treatment with the pain killers, around 70.1% of females also self-medicate themselves by looking at the advertisements in the TV or other social networking sites which is not appropriate to do so without the knowledge about the medicines and doctors consultations, 11.6% females think it is very convenient to self-medicate as they might not be aware of the consequences that they might face by neglecting the symptoms they have and feel it's better to self-medicate; this is also due to the lack of time (10.1%) they face throughout the day and find it difficult to manage

the time for doctors consultation and think it's better to self-medicate. In males 52.6% of males do self-medication based on their previous experience as they might have this symptom previously and now they use the same previous treatment prescribed by the doctor every time when they get this symptom without the future concern of consulting the doctor again, 26.3% use their friends suggestions for treating their symptoms, 17.5% self-medicate themselves based on the advertisements, 12.3% of men self-medicate because they think self-medicating themselves is cost effective which is mostly seen in the labor class of men who do not have much to spend on the doctors consultation fee and believe it's better to self-medicate without the knowledge and consequences that could further occur, 7% of men self-medicate because of their self-confidence and because it's very convenient as in today's day basic knowledge about the drugs and medicines are easily available on the internet and other sources, 1.8% of men self-medicate due to lack of time in their busy schedule. As demonstrated by Shivraj. B Patil *et al* (2014). 54.63% used old prescription for same diseases as basis of facts about drugs which was similar to observations made in Mangalore. Nevertheless, in additional study from India and Ethiopia textbooks was the most collective source of information. Overall of students self-medicated because of mild nature of illness in their study. Comparable observations were made by studies from West Bengal and Nepal.

Most common indication for self-medication was cold and cough in our study which was similar to observations made in West Bengal and southern part of India. However, fever was the most common indication for self-medication in a study conducted in Ethiopia and Mangalore. Antibiotics were the most common class of drugs self-medicated in our written report which was similar to observation made in west Bengal. Whereas in manglore and Ethiopia antipyretics were the drugs mostly used for self-medication. Additional study from Bahrain reported analgesics as most common class of drugs self-medicated and usage of antibiotics for self-medication was only 6%. The reason behind limited use of antibiotics in Bahrain was that, strict government regulatory policies were laid regarding over the counter sale of antibiotics. This proposes the utilization of antibiotic is great in our study which could be due to lack of regulatory policy governing the OTC sale of antibiotics. In our study, also the most common symptom is cold and the most common reason being previous experience which is slightly deviated from the compared study.

The most common drugs with which participants self-medicate themselves includes, 69.9% of participants self-medicate with paracetamol, which is an antipyretic and a mild analgesic and is generally used for treatment of pain and fever and it is an OTC drug which is easily available in any pharmaceutical shop. 50.5% of participants self-medicate themselves with pain killers such as combiflam

and many other medicines these medications are generally used among the female group of participants. 38.7% of people self-medicate using cetirizine which is generally used for the treatment of allergic disorders. 15.6% of participants use PPIs and H2 blockers to treat themselves these are generally used to suppress gastric acid secretions. 10.8% of participants use cough syrup for treatment of dry and wet coughs, 9.7% of participants among which generally females use B.complex medicines to treat themselves these medicines are used as a dietary supplement which contains all vitamin b nutrients. Lastly 4.3% of participants use anti-emetic which is generally used to prevent vomiting in certain conditions. As demonstrated by Gupta *et al* (2011). Majority of participants (57.9%) who practice self-medication, request for drugs by clarifying their symptoms consistent with other similar studies but contrary to a study by AO Afolabi (2007) where requesting by trade names was most common. Pharmacists act as the most important source (42.1%) of information about drugs for those who practice self-medication consistent with the finding of Lal V *et al* (2007). This practice makes the general population vulnerable to exploitation by pharmacists who tend to exaggerate minor sicknesses and sell expensive brands of drugs of which cheaper or generic versions are available. In our study, also the drugs were purchased using their generic names rather than the brand names as many of the population know the medicine based on their generic names.

### CONCLUSION

The reason for higher incidence of this practice in women might be their limited movement outside the house and an inferior status in the household. This leads to decrease in the propensity to take expert help and resort to self-medication. When considering age as a factor the highest age group that practices self-medication are 21-35 years, this association is statistically significant, the purposes behind higher pervasiveness in the youthful populace may be the joyful, chance inclined state of mind of the adolescent and simple access to a plenty of data It is also observed that the attitude and knowledge about self-medication was highest among these age groups. The most common reason for self-medicating was previous experiences in other words the patient continued the same medications which he was consuming when the same symptom occurred earlier he uses the same prescription again and again.

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