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Original Research Article

Self-medication practices among adults of north Karnataka

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ABSTRACT

Background: Self-medication is on rise landing up in drug resistance. This study assessed the knowledge, practice and attitude of self-medication among both urban and rural adults of north Karnataka.
Methods: A cross-sectional study was conducted between October 2020 to November 2020. A total of 200 adults were selected considering 100 each from urban and rural areas by convenient sampling technique. Random houses were visited and individuals meeting the inclusion criteria and exclusion criteria were interviewed after taking informed consent. All health care professionals were excluded from the study. A pre-tested questionnaire consisting of demographic information and questions related to knowledge, attitude and practice of self-medication was used to collect the data.
Results: Our study found that 37% and 70% of participants from rural and urban Dharwad respectively practiced self-medication. Majority of those who self-medicate were educated in both rural and urban areas. 5.5% and 11.5% of rural and urban residents respectively self-medicated with antibiotics. A significant proportion of those who self-medicated from both study areas were in managerial and above positions (21.6% from rural and 25.7% from urban Dharwad). Majority of them used painkillers for self-medication.
Conclusions: The prevalence of self-medication was high among urban residents compared to rural area. A significant association was found between self-medication practices and education, occupation and socio-economic status. Thus, knowledge must be increased among people regarding the dangers of self-medication and issues addressed to avoid it from happening by passing laws that avoid easy sale and availability of medicines.

Keywords: Antibiotic resistance, Knowledge, Self-medication

INTRODUCTION

Self-medication is the use of medicines to treat self-diagnosed illness or symptoms without consulting a physician. It is a phenomenon highly rampant in today's society as individuals are more exposed to information at their fingertips, be it through the internet or a simple phone call to family members/friends. Socio-economic culture, personal traits, and healthcare system play an important role in self-medication prevalence and practice.

The pattern of self-treatment varies in different communities and is affected by several factors such as age, sex, income, expenses, self-care orientation, education level, medical knowledge, satisfaction and people's perception of disease.[1] In the case of a person hailing from a rural background, certain additional factors play a role in the decision to self-medicate. Some of these factors are loss of wages due to time spent to visit a doctor, lack of access (transport/distance of healthcare center), superstitions which prohibit them from visiting a healthcare center when necessary, etc. On the other hand, additional factors which influence people from an urban background to self-medicate are lack of time due to a busy schedule, access to unlimited information on the internet/mass media platforms, easy availability of over-the-counter drugs in stores, better education status of the community, etc.

Self-medication has some pros and cons. Self-medication increases the possibility of drug abuse and drug dependency. It also masks the signs and symptoms of underlying diseases, hence complicating the problem, creating drug resistance, and delaying diagnosis.[2] Nonetheless, self-medication is not always considered a negative type of behavior. When self-medication is practiced using over-the-counter (OTC) medicines, it is considered an important element of self-care emphasizing the role of each individual in their own health.[3]

In developing countries, infections are very common due to reasons such as overcrowding, lack of sanitation, poor hygiene, improper vaccination coverage and inability to afford a healthy lifestyle. Improper consumption of antibiotics has led to a rise in the phenomenon of antibiotic resistance in these countries.

Considering the above-mentioned practices and beliefs, this study was done to assess the knowledge, practice and attitude of self-medication among the adults of north Karnataka and to compare these between rural and urban areas.

METHODS

The present study was a cross-sectional study and was conducted among adults of urban and rural field practice areas of our medical college in Dharwad, a district in North Karnataka. Data was collected over a period of 2 months, i.e., October and November 2020. Sample size was based on quota sampling technique and consisted of 200 individuals, 100 each from rural and urban areas.

Data collection was done by visiting individual houses in urban and rural areas. Only individuals meeting the inclusion criteria and exclusion criteria were interviewed.

Inclusion criteria

The inclusion criteria included adults above 18 years of age and those individuals giving consent.

Exclusion criteria

Exclusion criteria included medical personnel like Doctors, AYUSH practitioners, nurses, medical students, pharmacists, paramedical staff as they already had a knowledge of medicines.

Informed verbal consent was taken before the start of the interview.

A pre-tested and pre-validated questionnaire consisting of demographic information and questions related to knowledge, attitude and practice of self-medication was used to collect the data. Literate participants who preferred to fill the questionnaires by themselves were allowed to do so whereas for others data was collected by interview. Questions were clearly explained to the individuals in their local vernacular language to make sure they clearly understand before filling up the questionnaire. The process was continued till the required sample size was met. Institutional Ethical committee clearance was obtained for the study.

The collected data was entered in an excel spread sheet and analysed using SPSS software trial version. Chi square test was used to find the association between self-medication and other demographic variables. Results were expressed as percentage. Level of significance was set at $p<0.05$.

RESULTS

A total of 200 adults participated in our study, of which 100 were from rural and 100 were from urban area. Majority of the participants from urban area were (57%) Females, 37% belonged to 18-30years of age, 45% of them were graduates, 39% of them were homemakers and 36% of them belonged to class 1 socio-economic status according to modified B. G. Prasad classification. Among rural participants 51% of them were males, 42% belonged to 18-30 years of age, 39% were educated up to secondary level, 39% of them were farmers and 37% of them belonged to class 5 socio-economic status according to modified B. G. Prasad classification. We found a significant difference among urban and rural participants with respect to socio-demographic variables like occupation, education and socio-economic status (Table 1).

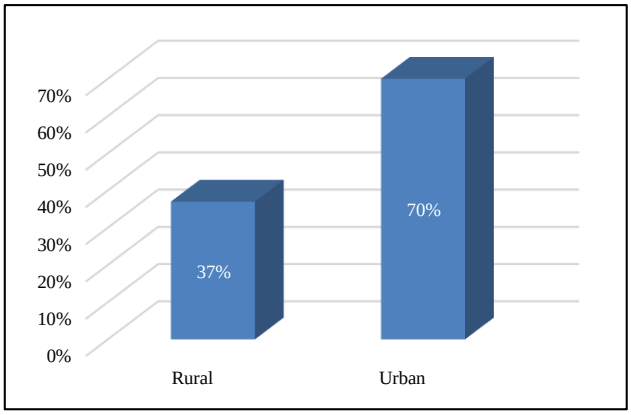

Figure 1: Proportion of participants practicing self-medication.

Our study showed that 37% of the participants from the rural parts of Dharwad and 70% from urban background practiced self-medication in last 6 months (Figure 1). Around 1/3rd of the participants practiced self-medication once in 3 months, i.e., 37.8% from rural and 32.8% from urban areas. Most participants from rural and urban Dharwad consume allopathic medication, i.e., 81% and 72.8% respectively. More than half of the participants rely on pharmacists for advice regarding self-medication (54% from rural and 68.5% from urban Dharwad) (Table 2).

Table 1: Socio-demographic profile of the study participants.

Attribute	Categories	Rural (%) n=100	Urban (%) n=100	Chi square	P value
Age (years)	18-30	42	37	2.964	0.563
	31-40	20	27		
	41-50	20	17		
	51-60	07	11		
	>60	11	8		
Gender	Male	51	43	1.284	0.257
	Female	49	57		
Education	Illiterate	20	07	31.434	0.00 #
	Primary	09	05		
	Secondary	39	23		
	Higher	15	11		
	Graduate	14	45		
	Post graduate	03	09		
Occupation	Student	07	15	51.94	0.00 #
	Housewife	20	39		
	Farmer	39	01		
	Elementary occupation	15	09		
	Clerk	07	12		
	Manager and above	12	24		
SES*	Class 1	07	36	45.479	0.00 #
	Class 2	15	18		
	Class 3	14	19		
	Class 4	27	22		
	Class 5	37	05		

*SES- Socio economic status by using Modified BG Prasad classification 2019; #p value is <0.05

Table 2: Patterns of self-medication practice among study participants.

Pattern	Options	Rural n=37 (%)	Urban n=70 (%)	Chi-square	P value
Frequency	Once a year	04	13	2.4177	0.49
	Once in 6 months	07	18		
	Once in 3 months	14	23		
	Once a month	12	16		
Preferred type	Allopathy	30	51	--------	-----
	Homeopathy	02	00		
	Ayurveda	02	00		
	Combination	04	20		
Source of information	Old prescription	18	29	3.715	0.29
	Pharmacist	20	48		
	Friends	01	09		
	Internet	11	18		
Procurement	Pharmacy	35	65	---------	------
	Unused medicines at home	07	27		
	Friends	03	07		
	Online stores	00	02		

Table 3 shows the association between socio-demographic profile and self-medication practice. Majority of those who self-medicate were found to be young adults who belonged to the age group of 18-30 years, i.e., 54% from rural Dharwad and 41.4% from urban Dharwad. Men practiced self-medication more often in rural areas (62.1%). A significant association was found between the education status and self-medication practice of participants. Majority of those who self-medicate were educated in both rural and urban. A significant proportion of those who self-medicated from both study areas were in managerial and above positions

(21.6% from rural and 25.7% from urban Dharwad). However, housewives majorly practiced self-medication in urban Dharwad (34.2%). Majority of those who practiced self-medication were of lower socio-economic status in rural areas (29.7%). On the contrary, major participants from urban Dharwad who self-medicated belonged to higher socio-economic status (38.5%).

Table 3: Association between socio-demographic profile and self-medication practices.

Attribute	Categories	Self-medication practices		Chi square	P value
		Rural (n=37)	Urban (n=70)		
Age (years)	18-30	20	29	3.0676	0.546
	31-40	7	18		
	41-50	7	11		
	51-60	1	6		
	>60	2	6		
Gender	Male	23	34	1.796	0.180
	Female	14	36		
Education	Illiterate	4	2	16.252	0.0061
	Primary	1	5		
	Secondary	12	11		
	Higher	10	9		
	Graduate	7	37		
	Post graduate	3	6		
Occupation	Student	4	12	15.106	0.009
	Housewife	7	24		
	Farmer	8	1		
	Elementary occupation	5	6		
	Clerk	5	9		
	Manager and above	8	18		
SES *	Class 1	6	27	15.602	0.003
	Class 2	8	14		
	Class3	4	14		
	Class 4	8	11		
	Class 5	11	4		

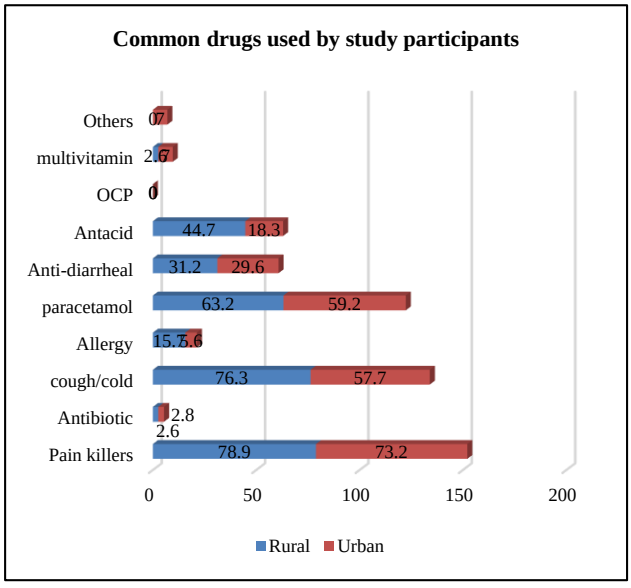

Figure 2: Common drugs used by study participants.

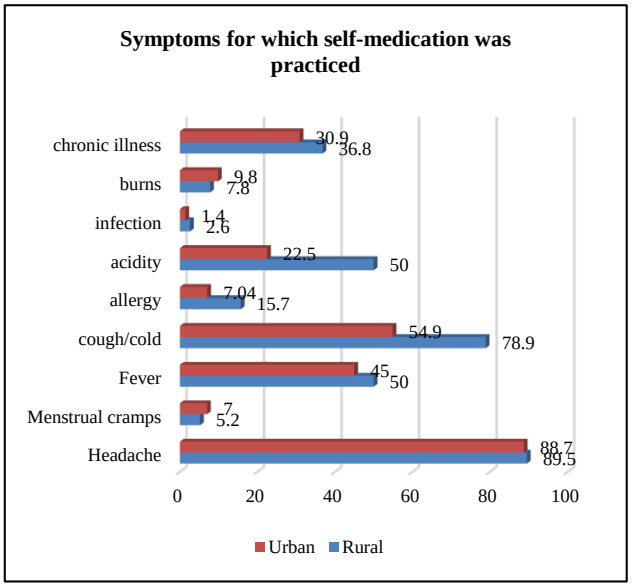

Figure 3: Symptoms for which self-medication was practiced.

The most commonly procured drugs and the symptoms for which self-medication was practiced among urban and rural participants is depicted in Figure 2 and 3 respectively.

Table 4: Reasons for practicing self-medication.

Reasons for practicing self-medication	Rural (n=37)	Urban (n=70)
Previous experience	13	33
Time saving	05	22
Poor accessibility	05	02
Affordability	08	05
Illness too trivial	21	37
Availability of unused medicines	05	02
Others	02	06

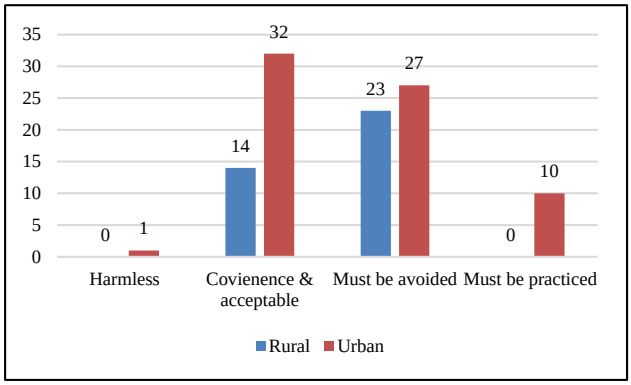

Figure 4: Attitude towards self-medication.

To understand the mindset of the people, participants were asked the reason for practicing self-medication. Majority believed that their illness was too trivial to consult a doctor, i.e., 56.7% from rural and 52.8% from urban areas. The 2nd most common reason to self-medicate was due to previous experience with similar symptoms (35.1% from rural and 47.1% from urban Dharwad) (Table 4). Most participants (62.1%) from the rural areas believed that self-medication must be avoided. On the other hand, majority of the participants from the urban areas (45.7%) were of the opinion that self-medication is convenient and acceptable (Figure 4). However, 55.26% of the rural participants recommend self-medication to others, while only 35.21% of the urban participants do the same.

The participants were also asked further questions regarding their self-medicating behavior in specific scenarios. When asked about self-medication with antibiotics, 94.5% from rural Dharwad and 88.5% from urban do not self-medicate with antibiotics. However, majority of the participants did admit that they stop the antibiotic course earlier than recommended by the doctor, i.e., when their symptoms begin to subside (72.9% from rural and 51.4% from urban Dharwad). On further questioning, it was found that most participants were not aware about antibiotic resistance and 75.6% from rural and 80% of participants from urban Dharwad were not aware of the fact that not completing their antibiotic course can contribute to the rise of antibiotic resistance. Moreover, 2.7% from rural and 4.2% participants from urban Dharwad admitted that they consumed antibiotics prophylactically. 5.4% of the survey participants from rural areas of Dharwad and 15.7% from urban Dharwad admitted to having a chronic illness. Fortunately, most participants with chronic illness (100% from rural and 72.7% from urban Dharwad) do not self-medicate for the same and regularly follow up with their doctor and follow their advice accordingly. The participants who have children at home (72.9%) of survey participants from rural and 57.1% from urban Dharwad) were asked about self-medicating for their children. 77.8% of the participants from rural and 85% of the urban crowd do not give medicines to their children without consulting a doctor. Furthermore, most participants (70%) from urban Dharwad knew that the dose of a medicine varies as per the weight of the child. This awareness (48.1%) was comparatively less in the rural crowd. All the participants were asked if they knew that alcohol reacts with certain medications and majority (66.7% from rural and 51.4% from urban Dharwad) were not aware of the same. Those participants who had a pregnant woman at home (32.4% from rural and 22.8% from urban) were quizzed further about self-medication during pregnancy. It was found that almost all the pregnant women in their homes did not consume medicines without consulting a doctor. Also, 81.25% from the urban crowd were aware that certain medicines can be harmful during pregnancy. However, most from the rural areas (58.3%) were not aware of the same.

DISCUSSION

A total of 200 adults participated in our study, of which 100 were from rural and another 100 participants were from urban background. The prevalence of self-medication practices in our study was found to be 37% and 70% among the rural and urban participants respectively. A study conducted by Limaye et al to compare self-medication practice in rural and urban Maharashtra showed that 7.7% of their rural and 51.5% of their urban crowd practiced self-medication.[4] This study similarly showed that the urban population was more involved in self-medicating than the rural. We assessed self-medication practices in the past 6 months duration which could be the reason for higher prevalence in our study as compared to Limaye et al who assessed only for past 3 months.[4] The prevalence of self-medication is lesser in our rural crowd as the participants would visit the rural healthcare center and other healthcare facilities set up by the government where they would be examined and provided medicines for free of cost. However, a study done by Ahmad et al found contrary results which can be attributed to the distribution of participants.[5]

It was found that 54% and 41.4% of the participants from rural and urban Dharwad respectively belonged to less

than 30 years of age which was similar to study conducted by Shalini et al.[6] This might be due to the increased access to information on internet and social media among younger generation. Most of the participants from the rural setup belonged to class 5 and we found significant association between socio-economic status of the participants and their self-medicating behavior which was Similar to study conducted by Biradar et al.[7] Majority of our study subjects procured drugs from pharmacy by explaining their symptoms and their main source of information on drug usage was pharmacist. These findings were reflected in study conducted by Shafie et al.[8] The issue with this is that the symptoms are treated but the disease remained undiagnosed and uncured. Moreover, the pharmacists may not be aware of the various drug interactions that take place. Awareness must be raised amongst people regarding the hazards of the same.

We also tried to find out the prevalence of anti-biotic usage without prescription among study participants. And, we found 5.5% from rural Dharwad and 11.5% from urban Dharwad did it. Among them, half of the participants did not complete the full course. This was lesser when compared to the study conducted by Aslam et al.[9] These figures show us the need to increase awareness regarding the importance of completion of antibiotic course and the dangers of antibiotic resistance in our country where infectious diseases are highly prevalent. Moreover, our study shows that more than 3/4th of the participants did not know that not completing the antibiotic course can lead to rise of antibiotic resistance, hence supporting our concerns.

The drug commonly used for self-medication was painkillers. And the major symptom for which self-medication was practiced was for headache. Studies conducted by Ahmad et al and Akram et al also reflected the same.[10,11]

Our study showed that the most common reason for practicing self-medication by the participants was their belief that the illness is too trivial to be consulted for, followed by previous experience with the illness. Another study conducted in Maharashtra showed similar results indicating the most common reason to be having an old prescription which is basically a previous experience of the illness.[4] Moreover a study conducted among medical students of South India too showed that the most common reason they self-medicated was due to their belief of the symptoms being trivial.[12] However, a study conducted in Lahore had brought into notice another common reason why people self-medicate, i.e. due to it providing quick relief.[11]

When pregnant participants or those with pregnant women at home were asked about self-medication during pregnancy, 9% from rural Dharwad and none from urban Dharwad practiced the same during pregnancy. Moreover, majority from urban Dharwad were aware of the risk associated with certain medicines during pregnancy. Unfortunately, less than half were aware of the same in the rural crowd. This difference could probably be due to decreased education and also due to decreased awareness amongst the rural crowd of the dangers associated with self-medication during pregnancy. Another study conducted in Iran had similar results as our study showing that 20.3% of women self-medicated during pregnancy and most women who had lesser education than those who did not self-medicate.[13] Thus, there is a need to educate women, especially pregnant women, of the dos and don'ts of pregnancy in order to promote better health of the mother and child.

When asked about attitude towards self-medication, most participants from rural Dharwad were of the opinion that it must be avoided and most from urban believed that it was convenient and acceptable. Only 1.4% from urban Dharwad believed it to be safe. This is good as it shows that there is room to educate and guide people regarding the risks involved with self-medication. On the contrary, a study conducted in Al Khaimah showed that an astonishing 64.1% of its participants believed self-medication to be safe.[14]

CONCLUSION

Our study found that 37% of participants from rural Dharwad and 70% from urban Dharwad practiced self-medication. Among those who self-medicated, a significant association was found between self-medication and their socio-economic status. Nearly one-third (29.7%) of those who self-medicated in rural areas belonged to class 5 of modified B. G. Prasad classification and those from urban areas (38.5%) majorly belonged to class 1.

The most common medication consumed were pain killers (78.9 in rural and 73.2% in urban Dharwad) and the most common symptom reported was headache (89.5% from rural and 88.7% from urban Dharwad). The common reason most prevalent for practicing self-medication was found to be the belief that the illness is too trivial to be consulted for (56.7% from rural Dharwad and 52.8% from urban Dharwad). When the attitude towards self-medication was assessed, it was found that 62.1% from rural Dharwad believed that it must be avoided. However, 45.7% from urban Dharwad were of the opinion that it is convenient and acceptable.

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