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Prevalence and Patterns of Self Medication among Adults of Randomly Selected Villages in Rural Bangalore – A Cross Sectional Study

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ABSTRACT

Introduction: Self medication using prescription medicines is common in certain developing countries due to lack of strict drug regulatory implementations and monitoring by the concerned authorities. Hence this study was carried out to know the prevalence and practices of self medication among the rural population of a village in rural Bangalore and plan for appropriate alternative health seeking behavior.

Method: This is a descriptive cross- sectional study carried out in Ittamadu Rural Health Centre area covering a population of 10,875 people, coming under 19 villages, employing Multi Stage Random Sampling.

Results: This study revealed that the prevalence of self medication was high (75.1%). Lack of time and financial reasons were found to be the most common reasons for self medication. Fever was found out to be the most common ailment for which self medication was practiced and analgesics were the most common drug used.

Conclusion: This study revealed that prevalence of self medication was high among adult population aged 18-60 years and there existed statistical association between practice of self medication and socio demographic determinants like Gender, Storage of Drugs at home after use, Awareness regarding possibility of Adverse Drug reactions occurring.

Keywords: Self Medication, rural area, Bangalore, Prevalence, patterns

INTRODUCTION

Self Medication involves the use of certain pre existing medicines by the general population to either cure or treat self- diagnosed symptom or group of symptoms or the continued or intermittent use of certain medications previously prescribed by health care personnels for recurring diseases, without consulting the health care personnel[1]. Self medication using prescription medicines is common in certain developing countries due to lack of strict drug regulatory implementations and monitoring by the concerned authorities.

Although widely practiced in developing countries due to a plethora of reasons, self-medication is regarded as an unnecessary and potentially unhealthy practice in the western world[2,3]. In countries like India, most episodes of self-medication practices occur due to many factors like easy availability of a wide range of drugs, lack of knowledge about the cons of using such drugs without prescription, inadequate health services etc[4]. This practice has earned much acclaim and recognition among the masses of today especially those belonging to the lower strata of the socio economic classes.

Poverty, ignorance, extensive advertisement and lack of proper rules and regulations regarding OTC (over the counter) drugs are certain other reasons responsible for the growing trend of self medication[5].

Inappropriate self medication results in irrational as well as incorrect use of drugs, thereby resulting in wastage of national resources, technical complications like increased resistance towards common antibiotics, delayed cure and thereby prolonged suffering. Therefore, as against the proposed idea of alleviating health care burden, practice of self medication only worsens the situation[6,7].

Hence this study was carried out to calculate the prevalence and describe the patterns of self medication among the rural population of Ittamadu rural health centre.

SUBJECTS AND METHODS

The study area was Ittamadu Rural Health Centre area, covering a population of 10,875 people coming under 19 villages. All the subjects more than 18 years of age residing in the selected villages and willing to participate in the study were included and non-permanent residents (have been staying in the village since less than 6 months) were excluded. This was a community based cross sectional study conducted on the basis of a study done by Kulkarni et al. on Self Medication practices among the adults in Hyderabad[4], in which the prevalence of Self Medication was found out to be 30.5%. In the present study to get 95% confidence level and relative precision of 8%, the study requires a minimum of 1369 subjects. Multi Stage Radom Sampling technique was employed as follows:

Stage 1: Stratification of Villages

All the villages (19), coming under the area covered by Ittamadu primary health Centre were listed. The villages were then divided into three different strata based on the size of population.

a) 1st strata: villages with population ≤ 500 people
b) 2nd strata: villages with population between 500 and 1000 people
c) 3rd strata: villages with population ≥ 1000 people

Employing the Probability Proportional to Population Sampling (PPPS) technique, the required sample size from each of the three strata was also calculated.

Stage 2: Selection of villages

In each of the strata, all the villages were alphabetically listed. From them, four villages were randomly selected using the Lottery method. In case any selected village did not have the necessary population to cover the required sample size from that particular stratum, more villages were selected so as to reach the required sample size.

Stage 3: Estimation of sample size from each selected village

From each of the selected village, the required sample size was again calculated using

Stage 4: Selection of the study subjects

In order to select the required people for the study, randomization was employed. again as follows.

From the selected villages all the people ≥18 years of age and are permanent residents of the village and willing to participate in the study were studied. The data was collected using a pre tested, semi structured questionnaire. The data included age, sex, educational status, family income, frequency of Self Medication, and reasons for the Self Medication and B.G. Prasad classification to assess socio economic status.

Ethical clearance was obtained before conducting the study from the Institutional Ethical Committee. During the survey, informed written consent was taken from the study subjects. Assurance was given that the confidentiality regarding their information will be maintained strictly. Descriptive analysis of Prevalence of Self Medication, patterns of Self Medication was analyzed and presented in terms of percentage and its 95% confidence interval was estimated. Chi square test was used to find out the association between socio demographic profile of the study subjects and Self Medication practices. The data was analyzed statistically using SPSS version 20 and tabulated accordingly.

RESULTS

Among the 1369 people studied, 759 (55.4%) were males and 610 (44.6%) were females. A wide majority, 88.6% of the study subjects belonged to the Hindu religion. Majority of the study subjects (67.9%) were literates whereas only 32.1% were illiterate. 35.9% of the study subjects (492 in numbers) had High School education. Out of the total 1369 study subjects, only 18.3% were unemployed. 33.4% of the study subjects were unskilled workers and almost 26.9% of the study subjects were involved in clerical jobs. 491 (35.9%) belonged to Joint family and 409 (30.0%) belonged to Nuclear family. Most of the study subjects, i.e., 598 people (43.7%) belonged to the Lower Class where as only 16.1% belonged to the Upper Middle Class as per Modified B.G. Prasad Distribution – 2013. (Table No. 1)

Table 1: Socio -Demographic Data of Study subjects (n=1369)

Variable	Subjects (%)
Age Group	
18-30	548 (40)
31-40	394 (28.8)
41-50	137 (10)
51-60	148 (10.8)
>60	142 (10.4)
Gender	
Male	759 (55.4)
Female	610 (44.6)
Religion	
Hindus	1213 (88.6)
Muslims	156 (11.4)
Educational Status	
Not Literate	440 (32.1)
Middle School	161 (11.8)
High School	492 (35.9)
Secondary School/Diploma	276 (20.2)
Employment status	
Not employed	250 (18.3)
Home maker	293 (21.4)
Unskilled worker	457 (33.4)
Skilled worker	369 (26.9)
Socio-economic class	
Upper middle class	221 (16.1)
Middle class	208 (15.2)
Lower middle class	342 (25)
Lower class	598 (43.7)

It was seen that out of the total 1369 study subjects, 1028 (75.1%) said that they have practiced self-medication at least once in the previous 6 months.

It was observed that out of the 1028 study subjects who practiced self medication, majority were Literate (77.1%). Among the 341 study subjects who were not practicing self medication, literacy rates were comparably high (79.5%). However, this statistical association between Educational status and practice of self medication among the study subjects was not found to be statistically significant.(χ^2 = 0.8042,df = 1, P = 0.37**)** (Table 2)

It was also observed that out of the 1028 study subjects practicing self medication, most of them were Males (51.7%). Out of these 1028, 42% belonged to the age group 18-30 years where as only 10% were above 60 years of age. In contrast, out of the 341 study subjects not practicing self medication, only 34% were aged between 18-30 years. There was a significant association between Age, Gender and practice of Self Medication (χ^2 = 79.550, df = 4, P < 0.005) and (χ^2 = 22.759, df = 1, P< 0.005) respectively. (Table 2)

It was observed that out of 1028 study subjects who were practicing self medication, 766 (74.5%) were unaware of the possible Adverse drug reactions where as 262 (25.5%) were aware of the possibility of such reactions to occur. There was a statistically significant association between Awareness regarding Adverse Drug reactions and practice of Self medication (χ^2 = 159.147, df = 1, P < 0.005). (Table 2)

Among the 1028 study subjects practicing self medication when asked about the reasons, 658 (64%%) said that there was lack of time to consult a doctor whereas 513 (49.9%) of them quoted financial reasons and 407 (39.6%) said that they did not want to go to a doctor for mild ailments. (Table 3)

In this study, it was noted that out of the 1028 study subjects who were practicing self medication, the main source of information regarding the drugs was "friends" for 756 (73.5%) study subjects and "earlier Prescriptions" for 633 (61.2%) of the study subjects. (Table 4)

Table 2: Comparison of practice of self medication with socio-demographic and awareness indicators

	Self Medication practice		Total (n=1369)(%)	Chi-square	df	P value
	Yes (n=1028)(%)	No (n=341)(%)				
Educational Status						
Not Literate	235 (22.9)	70 (20.5)	305 (22.3)	0.8042	1	0.37
Literate	793(77.1)	271 (79.5)	1064(77.7)			
Age- Group						
18-30 years	432 (42.0)	116 (34.0)	548 (40.0)	79.550	4	<0.005
31-40 years	240 (23.4)	154 (45.2)	394 (28.8)			
41-50 years	129 (12.5)	008 (02.3)	137 (10.0)			
51-60 years	124 (12.1)	024 (07.0)	148 (10.8)			
>60 years	103 (10.0)	039 (11.5)	142 (10.4)			
Gender						
Males	532 (51.8)	227 (66.6)	759 (55.4)	22.759	1	<0.055
Females	496 (48.2)	114 (33.4)	610 (45.6)			
Awareness of ADRs						
No	766 (74.5)	126 (37.0)	892 (65.2)	159.147	1	<0.055
Yes	262 (25.5)	215 (63.0)	477 (34.8)			
Awareness regarding Storage of Drugs						
No	282 (27.4)	185 (54.3)	467 (34.1)	81.951	1	<0.055
Yes	746 (72.6)	156 (45.7)	902 (65.9)			

Table 3: Distribution of study subjects practising self medication based on reasons for self medication

Reason	Subjects (n=1028)* (%)
Time constraint	658 (64)
Financial reasons	513 (49.9)
Poor care in hospitals	334 (32.5)
Not wanting to go to doctor for mild ailments	407 (39.6)
Travelling difficulty	279 (27.1)
Dislike to a particular doctor	84 (8.1)
Others	89 (8.7)

*Indicate multiple responses

Table 4:- Distribution of study subjects practising self medication based on source of information about self medication (n=1028)*

Source	Numbers (%)
Friends	756 (73.5)
Family	291 (28.3)
Earlier Prescriptions	633 (61.2)
TV and radio	110 (10.7)
Chemists	155 (15.1)

*Indicate multiple responses

Table 5: Distribution of study subjects practising self medication based on common ailments for which self medication is practiced (n=1028)*

Health condition	Subjects (%)
Fever	910 (88.5)
Cold	695 (67.6)
Cough	736 (71.6)
Sore Throat	82 (8)
Vomiting	24 (2.3)
Diarroeha	60 (5.8)
Joint Pain	355 (34.5)
Headache	495 (48.2)
Others	75 (7.3)

*Indicate multiple responses

It was observed form this table that among the 1028 study subjects practicing self medication, 746 (72.6%) were storing drugs in their houses for further use where as 282 (27.4%) said that they did not store the drugs, instead procured them whenever it was needed. The association between Storage of drugs and Practice of Self medication was found to be statistically significant (χ^2 = 81.951, df = 1; P< 0.005). (Table 2)

In this study, it was observed that self medication was practiced by 85.1% of the 342 study subjects belonging to the Lower Middle Class, 84.6% of the 123 study subjects in the Upper Middle Class and 70.7% of the 598 study subjects belonging to the Lower Class.

In this study, out of the 1028 study subjects who were practicing self- medication, 88.5% cited Fever as the most common disease for which they practiced self- medication followed by 71.6% for Cough and 67.6% for cold. (Table 5)

DISCUSSION

As is seen in this study, out of the 1028 study subjects who were practicing self- medication, 66.5% cited Fever as the most common disease for which they practiced self- medication. These results were found to be in accordance with most of the studies done in India and abroad with similar objectives. According to Malvi Reteesh et al, generally, self medication is used in some clinical conditions like fever (36.2%), pain (32.7%), headache (25.8%), cough (24.1%), cold (20.6%) etc [2]. A study done by Dr. Pavan Kumar Kulkarni et al on "Self medication practices among slum dwellers in South Indian city" opines that the symptoms for which medicines were used are mostly pain, cough, and fever[4].

In this study, it was observed that out of the total 1369 study subjects, 1028 study subjects i.e., 75.1 % had practiced at least one form of self medication during the past 6 months. This observation was similar to few other studies conducted by eminent a study conducted by Jyoti Kaushal et al[6], Abhishek Sharma et al[7] . However, the results of our study were in contrast to the observations made by certain other researchers in similar studies. A study conducted by S G Deshpande et al (31%)[8], Pandya R et al (82.3%)[9] S. Kayavizhi et al[10] , Parita Patel et al (64%)[11] and Pankaj Jain et al (2.5%) [12]. The difference in prevalence may be due to factors like Education, better Socio economic conditions and occupational oppurtunities in these areas when compared with the area under this study.

In this study, it was observed that among 1028 study subjects who were practicing self medication, 432 (42.1%) belonged to the age group 18-30 years. In a study conducted by S G Deshpande et al, it was found that among 31% Indians who practiced self medication; about 26.9 per cent of them were in the age group of 31 to 40 and 30.8 per cent between 41 and 50 years [8]. These results were not completely out of league with the current study.

In this study, out of the 1028 study subjects practicing self medication, 51.8% were males and 48.2% were females. This observation was in accordance with some studies done by other researchers with similar objectives. A statistical Study on Self Medication Pattern in Haryana, done by Pankaj Jain et al, states that the proportion of the interviewee practicing self medication as regards sex was 35.6% among female and 64.4% among males [12]. Mateti Uday Venkat et al opines that of the total 100 self medication prescriptions analysed during their study, 71% belonged to males and 29% to females [13].

A study on the "Prevalence of self-medication practices and its associated factors in Urban Puducherry, India" observes that 24.3% of the study population practicing self medication were in the age group 50-59 years, on contrast to 12.1% in the current study; 17.6% in the age group 40-49 years as opposed to 12.5% in the present study; 16.7% in the age group >60 years as against 10.0% in this study; 10.7% in the age group 20-29 years in contrast to 42.1% in this study and 10.5% in the age group 30-39 years as against 23.3% in the present study [14]. Bhavna Puwar et al in their study titled "Self medication practice among adults of Ahmedabad city" observe that majority of the respondents (33.6%) practicing self medication was in the age group of 20-29 years. The least number of respondents practicing self medication was in the age group >60 years (4.3%) [16]. An article published in the International research Journal of Pharmacy authored by Mateti Uday Venkat et al reveals that the highest incidence of self medication was in the age group 26-35 years, coming up to 39% However, the least number of people practicing self- medication was in the age group >65 years which came up to only 4% of the study population [17].

As is seen in this study, out of the 1028 study subjects who were practicing self- medication, 66.5% cited Fever as the most common disease for which they practiced self- medication. Marília Garcez Corrêa da Silva et al conducted a study titled "Self-medication in university students from the city of Rio Grande, Brazil" and concluded that the overall reasons for self-medication were headache (89.7%), cold (82.9%), sore throat (58.1%), fever (56.2%), menstrual cramps (47.6%), muscle pain (41.0%), cough (36.4%) and heartburn (29.4%); and also stomachache (27.1%), nausea (26.4%), vomit (22.3%), allergy (21.2%) and intestinal colic (14%) [18]. Most of these results reflected in the current study where the common ailments for self medication were fever, Cough, Common Cold, Headache, Joint pain etc. An "Assessment of Self-Medication Practices Among Medical, Pharmacy, and Health Science Students in Gondar University, Ethiopia" done by Abay S M finds out that Fever and headache (24.8%) were the most frequently reported causes of morbidity for which self medication was practiced [19]. These results were found to be in accordance with most of the studies done in India and abroad with similar objectives. According to Malvi Reteesh et al, generally, self medication is used in some clinical conditions like fever (36.2%), pain (32.7%), headache (25.8%), cough (24.1%), cold (20.6%) etc [2]. A study done by Dr. Pavan Kumar Kulkarni et al on "Self medication practices among slum dwellers in South Indian city" opines that the symptoms for which medicines were used are mostly pain, cough, and fever[4].

It was observed that out of 1028 study subjects who were practicing self medication, 746 (72.6%) were unaware of the possible Adverse drug reactions. Comparable observations were made by other researchers with similar objectives in studies done across the country and the world. A study entitled "Study of self-medication practices and its determinants among college students of Delhi university north campus, New Delhi, India" conducted by Mrinmoy Adhikary et al concludes that the awareness about adverse drug reactions of the drugs used was 93.6% among the study subjects [20]. A study published conducted by Rushi N Pandya et al reveals that more than 90% of respondents were aware of the adverse affects associated with self-medication [9]. In contrast, Malvi Reteesh et al, in their study on "Self medication among the people of Bhopal Region of Madhya Pradesh" concludes that out of the 116 respondents, very few had the knowledge regarding the adverse effects of the drugs being consumed without a doctor's advice [2].

CONCLUSION

This study revealed that the prevalence of self medication was high (75.1%) among the adult population aged 18-60 years and there existed statistical association between practice of self medication and some socio demographic determinants like Female gender, Storage of Drugs at home after use, Awareness regarding possibility of Adverse Drug reactions occurring. Schooling and education was not found to be having any effect on the practice of self medication. Lack of time and Financial reasons were found to be the most common reasons for practice of self medication. Fever was found out to be the most common ailment for which self medication was practiced and analgesics were the most common drug used for self medication purposes. Since the study covered a large sample size of 1369 and random selection of the study subjects were done, the study findings are most likely to be truly reflective of the problem in Ittamadu PHC population.

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