

Research Article

Senior citizens and over the counter drugs: challenges in rural India

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ABSTRACT

Background: The geriatric population is on a rise in India, which is accompanied by an increase in their health care needs. As they are prone to have multiple diseases simultaneously the tendency for over the counter (OTC) or non-prescription drugs is much higher among the elderly population. A thorough knowledge about the medication practices among elderly is indispensable since the chances for adverse drug events; drug interactions etc. are higher among them. The primary objective of the present study was to measure the prevalence of over the counter drug usage among those aged 60 years or above residing in a rural block of North Tamilnadu, India.

Methods: A community based cross sectional study was conducted among those aged 60 years or above using an interviewer administered questionnaire and data was collected from 100 consenting participants who were selected using multi stage sampling.

Results: The prevalence of the usage of over the counter drugs among the elderly population was found to be 51% (95% CI 41.1-60.9). It was shown that the usage of OTC drugs was associated with higher socio economic status (p value 0.015) and literacy (p value 0.003).

Conclusions: Further studies need to be done to identify whether such high prevalence of OTC drug usage among elderly is a reflection of drug practices among general population and if proven otherwise should explore the various reasons for the same so that necessary measures can be implemented to alleviate the situation.

Keywords: Geriatric population, Over the counter drugs

INTRODUCTION

The population of elderly is on a rise in India. According to the 2011 census by the government of India, senior citizens constitute 8% of the total population.¹ An analysis of the morbidity and mortality profile of the elderly has shown that they suffer equally from both communicable and non-communicable diseases, many with multiple diseases at the same time which inevitably lead to the use of multiple medications or polypharmacy.²⁻⁴ This also encourages the tendency for self-medication, increase in the use of non-prescription drugs and purchase of medications showing the previous

medication cover, especially in India where the health care is becoming expensive, especially for those who are poor.^{5,6} Over the counter (OTC) drugs, otherwise known as non-prescription drugs are those medications that are bought without any prescription. It gives the patient, the freedom to self manage the symptoms. A study by United Nations international drug control programme has revealed that use of such drugs is on a rise in South Asian countries like India.⁷ Many consider it as an economic way of treatment for common self-limiting illnesses especially among the geriatric population.⁸⁻¹⁰ The flip side of this practice is that the geriatric populations are more vulnerable to adverse drug events that are

associated with the concurrent use of alcohol, high caffeine use or other prescription medications. In India OTC drug is not a legally defined term with any inclusion in the Drugs and Cosmetics Act, 1940 or the Drugs and Cosmetics Rules, 1945. Those who have the license can sell two types of drugs, prescription drugs that include those medications mentioned under schedule H, that need a prescription from a registered medical practitioner for issuing and non prescription drugs that primarily include drugs listed in schedule K. Thus, by OTC drugs we essentially mean those mentioned under schedule K.¹¹ Various studies have shown the prevalence of self medication between 39% and 70%.¹²⁻¹⁴ The objective of the current study was to measure the prevalence of OTC drugs usage among the elderly population, aged 60 years or above, in a rural block in north Tamilnadu, India.

METHODS

A community based cross sectional survey was carried out among elderly of age 60 years or above residing in a rural block of north Tamilnadu, India. Assuming a prevalence rate of OTC drug as 50%, a sample size of 100 was calculated. Five villages were randomly selected and from within each village, 20 participants were selected using systematic random sampling. An interviewer administered pilot tested semi structured questionnaire was used to collect data from the study participants after obtaining a verbal consent. Questionnaire had questions regarding the socio demographic profile like age, gender, marital status, type of family etc. Socio economic status was assessed using modified Kuppuswamy scale 2012. Further information regarding the presence of morbidities, common conditions for which OTC drugs were preferred, reasons for the opting OTC drugs etc. were explored. Data was entered using EPI data version 3.1 and analysed using SPSS version 20. The proportion of people who had used OTC drugs over the last 6 months was calculated. Various percentages regarding the number of morbidities, common conditions for which OTC drugs were used, source of information etc. were calculated. Chi square or Fischer exact tests were done appropriately to measure the association between usage of OTC drugs and various risk factors like socio economic status, gender and literacy status.

RESULTS

Majority of the study participants belong to the age group 60 to 69 years of age. The socio demographic characteristics of the study participants are described in the Table 1.

Among the participants, 55%, 29%, 4% and 12% had reported respectively, 2, 3, 4 and 1 are self-reported morbidities. The prevalence of over the counter medications use was 51% (95% CI: 41.1-60.9). They primarily bought OTC drugs for fever (39%), cold (31%), headache (8%) and joint pain (7%). Distance to the health

system (59%) was pointed out as a commonest reason for buying medicine without prescription, followed by waiting time in the hospital (35%), consideration as a better treatment option (4%) and financial constraints (2%). Pharmacists themselves were the primary source of information (55%) for the majority of the participants. Previous prescriptions were also a major source of information (41%) regarding various medications. Majority responded that they would try self medications for acute conditions but hesitated to do so for the chronic conditions (Table 2).

Table 1: Socio demographic characteristics of the participants (n=100).

Category	Percentage	
Age group	60-69 years	72
	70-79 years	20
	80 and above	8
Gender	Male	61
	Female	39
Marital status	Currently married	61
	Widow/widower	36
	Unmarried	3
Type of family	Nuclear	94
	Joint	6
Literacy status	Can't read and write	34
	Read only	18
	Both read and write	48
Socio economic status (modified Kuppuswamy)	Lower	32
	Upper lower	55
	Lower middle	12
	Upper middle	1

Table 2: Over the counter drugs (OTC) preference for morbidity conditions (n=100).

Morbidity conditions	OTC preference (%)	
Acute conditions	Cough	57
	Fever	58
	Headache	55
	Abdominal pain	2
	Loose stools	11
Chronic conditions	Diabetes	3
	Hypertension	5
	Heart diseases	0
	Joint pain	4
	Sleeplessness	0

Fischer exact test or chi square test were done appropriately to measure the association between the use of over the counter medications with various factors like socio economic status (SES), gender and literacy status and the significance level was calculated (Table 3). Among those belonging to the high SES group (lower middle and upper middle combined) 84.6% consumed

OTC drugs, whereas in low SES group (lower and upper lower combined) only 46% did. Similarly 66.7% of those who are literate consumed OTC drugs as compared to 36.5% among those who are illiterate.

Table 3: Association between use of over the counter drugs and SES, gender and literacy.

		Use of OTC drugs	Not availing OTC drugs	P value
SES	High SES	11(84.6%)	2(16.4%)	0.015*
	Low SES	40(46%)	47(54%)	
Gender	Male	34(55.7%)	27(44.3%)	0.236
	Female	17(43.6%)	22(56.4%)	
Literacy	Literate	32(66.7%)	16(33.3%)	0.003*
	Illiterate	19(36.5%)	33(63.5%)	

DISCUSSION

We conducted a community based cross sectional study to measure the prevalence of the usage of over the counter medication (OTC) use among the elderly population aged 60 years or above. The prevalence of OTC use was 51% (95% CI: 41.1-60.9) among the elderly population. This was very similar to the results from other studies which have showed a prevalence ranging from 38% to 63%.^{15,16} The drugs were primarily used for the treatment of acute symptoms like fever, common cold, headache, joint pain. The practice was found to be very rare with chronic conditions diabetes, hypertension etc. A previous study done along the coastal regions of South India looking into the self-medication practices also showed that people opt for over the counter medications for minor, acute symptom.¹⁷ The present study highlights distance to the nearest health center and waiting time in the hospital as the major hindrances for going to the hospital and getting a prescription. Other literature highlighted difficulty in sparing time for health care, high consultation fee, quick relief of symptoms, use of alternate medicines like ayurveda, lack of family support etc. as the primary reasons for self-medications, but the data was primarily obtained from younger population.¹⁸ With urbanization and economic growth, there is a growing tendency for youth migration to urban areas, threatening the traditional social support systems of elderly like joint family system, combined land ownership etc. leaving them to fend for themselves.^{19,20}

There is also an evolving school of thought that we should move towards the concept of hospital at home as family members are working and not able to take care of parents.²¹ Elderly living in a joint family still would get help of some sort; whereas those living alone struggle to get help from family members.^{21,22} Physical inability could be a concern that prevents them from going to the hospital by themselves, thus opting for an easier alternative. Studies should be done to identify ways to

make our health care delivery system easily accessible for the aged population. As mentioned earlier, in India, no strict definitions are there for OTC drugs. What has been availed as OTC drugs in this study are not strictly restricted to the medications mentioned in schedule K. With the free availability of any drug from the pharmacy without prescription, the issue of OTC drug usage among elderly takes a whole new dimension. Multiple drugs would work in synergy, thereby causing toxicity, which would be much more than the individual toxicity of these drugs. This along with factors like inadequate communication from drug providers, poor compliance due to cognitive impairment and psychological status, inadequate information imparted by pharmacists with respect to major side effects, way to identifying them, proper dose to be taken etc. increase the risk of drug-drug or drug disease interactions and resultant adverse drug events.²³⁻²⁵ The usage of OTC drugs among those belonging to the high SES was nearly 85% where as it was nearly 46% among those belonging to the low SES. This finding corroborates with the studies done among younger population and in different settings that those belonging to the high SES are more likely to consume OTC drugs.²⁶⁻²⁸ Being literate also appeared as a risk factor for consuming over the counter drugs, but the reasons need to be studied for further interpretation.

India will soon face an exponential rise in elderly population. Unfortunately, the state has not recognized the impending challenge for our health care delivery system and our public health policy still revolves around reproductive and child health.²⁹ We need to focus on the health care needs of our elderly and further research needs to be done to make our health care delivery system more 'age friendly'. Otherwise the tendency for self medication will increase among our aged population and soon impose a menace for healthy ageing of elderly.

CONCLUSION

Further studies need to be done to identify whether such high prevalence of OTC drug usage among elderly is a reflection of drug practices among general population and if proven otherwise should explore the various reasons for the same so that necessary measures can be implemented to alleviate the situation.

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