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Research Article

Prevalence and pattern of self-medication in elderly individuals

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ABSTRACT

Background: Self-medication that is taking medicines without prescription by the doctor is highly prevalence in the community. Elderly population is more likely to self-medicate due to multiple morbidities. This study was undertaken to evaluate the prevalence and pattern of use of self-medication among elderly individuals.
Methods: Study was carried out at tertiary care hospital. The questionnaire which was used in our earlier studies regarding self-medication was utilized. After obtaining consent, the elderly individuals (≥60 years) reporting for health check-up were requested to fill up the questionnaire themselves or were asked to respond to questions verbally in the case of illiterate. Questionnaire mainly contained demographic and clinical data and self-medication details - frequency, symptoms/disease for self-medication, drugs, reasons for self-medication, sources of information, awareness regarding the risk of self-medication.
Results: Out of 200 elderly included in the study, 177(88.5%) reported self-medication in 6-month recall period. About 60% were male and mean age - 69.64±6.21 (60-85) years. About 21% reported frequent self-medication. Abdominal pain (16%) and headache (14%) were the most common symptoms, and diabetes (7%) was the most common disease for self-medication. Allopathic medicines (55%) mainly paracetamol (13.5%) were most frequently used followed by home remedies (23%) and ayurvedic (17%). Previous experience with the drug (50%) followed by advertisements (23.2%) were common source of information. Most common reasons for self-medication were convenience (69.5%) and cost (56%). None of respondents were aware of risks of self-medication
Conclusion: Self-medication is highly prevalent in elderly people who are unaware of risks involved.

Keywords: Cross-sectional study, Drug utilization, Elderly, Self-medication, Self-care

INTRODUCTION

Self-medication involves the use of medicinal products by the consumer to treat self-recognized disorders or symptoms, or the intermittent or continued use of medication prescribed by a physician for chronic or recurring diseases or symptoms. In practice, it also includes use of the medication of family members, especially where the treatment of children or the elderly is involved.[1] Use of self-medication is highly prevalent in both urban and rural community varying from 32.5% to 81.5%.[2-4]

Elderly population is on rise all over the world including in developing countries. The world's elderly population which was 550 million in 1996 is expected to approach 1.2 billion by the year 2025. As a result of decline in birth rate and increased life expectancy, the older population in most countries is growing faster than the population as a whole. Lesser developed nations are aging faster than their developed counterparts.[5] In India, population aged 60 years and above is projected to be double in size between 2001 and 2026 the elders will account for 12.17% of overall population in 2026.[6]

The National Sample Survey of 2004 (60th Round) provides a comprehensive status report on older persons. According to it, the prevalence and incidence of diseases as well as hospitalization rates are much higher in older people than the total population. Non-communicable diseases requiring a large quantum of health and social care are extremely common in old age, irrespective of socio-economic status. The treatment/management of these chronic diseases is also costly, especially for cancer treatment, joint replacements, heart surgery, neurosurgical procedures, etc. thereby making

it out of bound for elderly whose income decreases post-retirement and more so for the elderly in the unorganized sector and dependent elderly women.[7]

Several studies have reported self-medication practices of elderly population.[8-10] A review of 28 articles on self-medication by elderly found the prevalence of self-medication between 4 and 87% with majority reporting between 20% and 60%.[11] To our knowledge, only a few studies have been reported from India.[12]

Hence, this cross-sectional study was conducted to evaluate the prevalence and pattern of self-medication in elderly at a tertiary care hospital in Ahmedabad city of Gujarat state in India.

METHODS

This cross-sectional study was carried out at Dr. Jivraj Mehta Smarak Health Foundation, a tertiary care hospital in Ahmedabad city of Gujarat state in India. The questionnaire which was used in our earlier study regarding self-medication was utilized.[13] The study was approved by Institutional Ethics Committee of the hospital.

After obtaining consent, elderly individuals (age ≥60 years) reporting for health check-up were requested to fill up the questionnaire in vernacular language (Gujarati) either themselves or were asked to respond to questions verbally in the case of illiterate participants. Questionnaire mainly contained demographic and clinical data and use of self-medication in 6-month recall period. Further details were asked to those participants who had used self-medication including frequency, symptoms/disease for self-medication, drugs used, reasons for self-medication, sources of information and awareness regarding the risk of self-medication.

Data was analyzed with the help of SPSS version 20.

RESULTS

Out of 200 participants 130 (65%) were of age 61-70 years, male participants were 125 (62.5%). Only 6% respondents were illiterate. Hypertension-119 (59.5%) and diabetes mellitus (DM) - 63 (31.5) were the most common illnesses reported (Table 1).

Out of 200 respondents, 177 (88.5%) reported practicing self-medication in 6-month recall period. There was a significant difference in age between self-medication and non-self-medication group (p=0.0172), mean age being 69.64±6.2 and 66.43±4.28 years, respectively. Out of 177, 37 (20.9%) reported to self-medicate often. Abdominal pain - 28 (15.8%) and headache - 25(14.1%) were most frequent symptoms for self-medication (Figure 1).

DM was the disease for self-medication in 12 respondents. Participant's own previous experience with medicine-88 (49.7%)

Table 1: Demographic and socio-economic characteristics of participants (n=200).

Character	Frequency (%)
Age (years)	
61-70	130 (65)
71-80	59 (29.5)
81-85	11 (5.5)
Gender	
Male	125 (62.5)
Female	75 (37.5)
Education	
Illiterate	12 (6)
Primary	53 (26.5)
High school	38 (19)
Graduate	71 (35.5)
Postgraduate	26 (13)
Family income (*1000/month)	
0-30	42 (21)
31-60	132 (66)
60-90	26 (13)
Disease	
HT	119 (59.5)
DM	63 (31.5)
SKIN DS	8 (4)
IHD	7 (3.5)
OA	5 (2.5)
RENAL CALCULI	4 (2)
GOUT	4 (2)
BPH	3 (1.5)
ENT DS	2 (1)
RESP DS	1 (0.5)
Other	2 (1)
Total	200

DM: Diabetes mellitus, HT: Hypertension, IHD: Ischemic heart disease

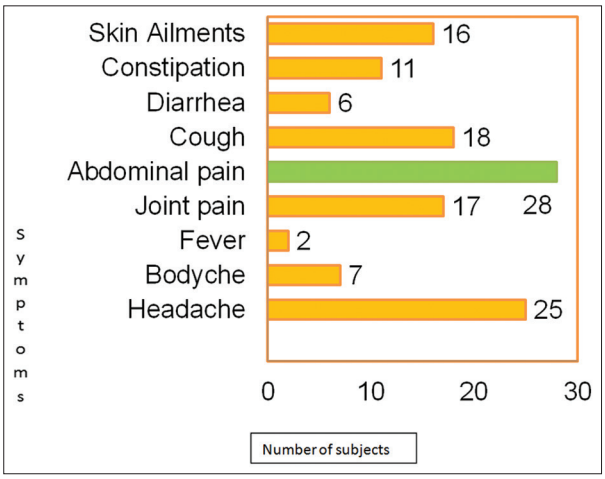

Figure 1: Symptoms leading to self-medication among respondents (n=177).

was the most common source of information for self-medication. The most frequent reason for self-medication was convenience-123 (69.5) followed by cost - 99 (55.9%) (Table 2). Allopathic medicines were most frequently consumed - 97%. Analgesics were most frequently consumed (Figure 2) of which paracetamol (13.5%) was the most common drug used (Figure 3). None of the respondents were aware of risks of self-medication.

There was no significant difference for self-medication between group educated high school and higher and illiterate and primary school educated groups (p=0.3446), group with monthly family income <₹40,000 and >₹40,000 (p=1).

DISCUSSION

This study revealed a high prevalence of self-medication in urban elderly persons (88.5%) with about 20% reporting frequent use of self-medication in 6-month recall period. This is higher than that in a study at Chandigarh Punjab state in which 62.7% of 515 participants reported self-medication.[14] Our results are in agreement with the study carried out in Karachi, Pakistan reporting the prevalence of 84.68%.[9] In a study in Iran, the prevalence of self-medication was 83%.[11] Lower prevalence is reported in elderly from Brazil with 35.7% of the elderly

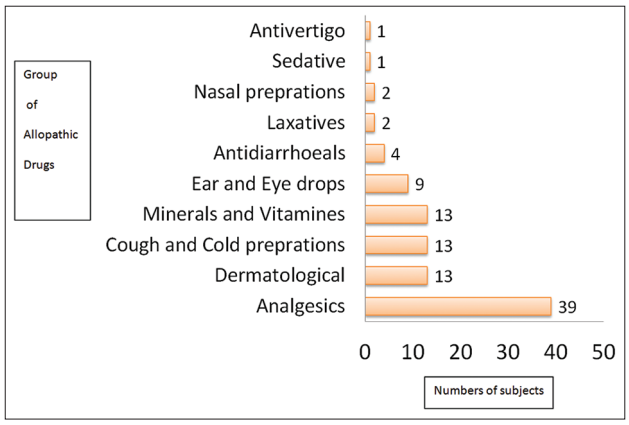

Figure 2: Drug groups used for self-medication by elderly (n=177).

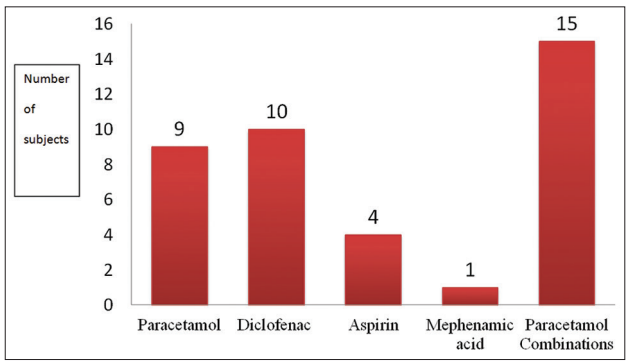

Figure 3: Self-medication of analgesics among elderly individuals (n=39), last bar-combinations of paracetamol with diclofenac/ibuprofen/tramadol/ nimesulide.

reported self-medicating,[15] while in the Australian study 97% of the elderly reported using self-medication.[16]

The high prevalence of self-medication in older adults could be due to several reasons. In this study convenience, economical, time saving and quick relief were the reasons for self-medication. In Punjab, study also economical and easy availability were important reasons[14] while in Pakistan study a higher proportion of participants reported economical and "time saving" as the common reasons.[9] Elderly at Iran also considered saving money and saving time among important reasons for self-medication.[10]

Abdominal pain and headache were the most common symptoms for self-medication in elderly. The previous study

Table 2: Self-medication characteristics in elderly (n=177).

Characteristic	Frequency (%)
Age group	
60-70	117 (66.1)
71-80	52 (29.3)
>80	8 (4.6)
Gender	
Male	107 (60.5)
Female	70 (39.5)
How often	
Often	37 (20.9)
Sometimes	23 (13.0)
Occasionally	117 (66.1)
Disease	
Symptoms	163 (92.1)
Diabetes	12 (6.8)
Hypertension	1 (0.6)
Others	1 (0.6)
Drug type	
Allopathic	97 (54.8)
ayurvedic	30 (16.9)
Homeopathic	9 (3.1)
Home remedies	41 (23.2)
Info source	
Friends and relatives	44 (24.9)
Previous experience/prescribed	88 (49.7)
Chemist	31 (17.5)
Advertisements	41 (23.2)
Reason	
Time saving	79 (44.6)
Economical	99 (55.9)
Convenience	123 (69.5)
Quick relief	79 (44.6)
Others	3 (1.7)
Total	177

in India reported gastric pain and fever[14] while elderly in Pakistan reported a headache and pain elsewhere in body as common symptoms for self-medication.[9]

For self-medication, allopathic medicines were most preferred with over half of elderly using them followed by home remedies. Previous study from India reported 46% using Allopathic medicines followed by 30% ayurvedic medicines, 18% homeopathic and about 6% used home remedies. Our study shows some preference for home remedies over ayurvedic medicines. Regional cultural differences are important determinants of preferences. Easy availability and known effectiveness of both over-the-counter (OTC) and prescription only allopathic drugs makes them first choice. Home remedies are also handy, cheap and consumed by generations.

Analgesics were the most consumed drug group with paracetamol being the most commonly used drug for self-medication. This finding is in accordance with previous reports on self-medication in elderly from India and other countries.[9,10,14] Analgesics like paracetamol are OTC drugs and being easily available used without advice or prescription of a doctor by all age groups including elderly for mild illnesses presenting with pain. None of the elderly reported use of antimicrobials which is a noteworthy finding of this study as the previous study from India reported use by 16.7% while Pakistan study reported at 11.5%. Use of antimicrobials without prescription is known to cause microbial resistance. In elderly the adverse effects also may be more frequent and severe than in younger adults.

There was significant difference of age between self-medicating and non-self-medication groups, the former group was older than the later. However, there was no difference in use of self-medication with regard to gender, income level and level of education.

For the elderly in our study, the major sources of information for self-medication drugs were own previous experience with drugs and friends/relatives in accordance with results from India and Iran.[10,14]

None of the elderly using self-medication was aware of the possible side effects of medicines they consumed. This is a matter of concern as polypharmacy is common in elderly who suffer from multiple diseases in ambulatory or hospital settings[17] with higher possibilities of adverse reactions and drug interactions than their younger counterparts. When additional medicines are consumed as self-medication, these chances increase further. Moreover, lack of knowledge would make it difficult for the treating Allopathic doctor to identify the culprit drug if complementary and alternative medicines like ayurvedic, homeopathic or home remedies are consumed along with routine drug therapy for chronic diseases. Hence, it is imperative for the doctors to ask their patients especially the elderly the history of self-medication and for the patients also to give information regarding the use of any self-medication.

CONCLUSION

To conclude there is the high prevalence of self-medication in elderly Although Allopathic medicine is most frequently choice, home remedies and other complementary and alternative medicines are also used. The majority of elderly use them for minor ailments. However, self-medication may leads to unwanted consequences due to interactions with the prescribed drug therapy for chronic diseases. Knowledge on the part of doctors as well as patients about self-medication practices would help in reducing the chances of any untoward consequences.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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