



Self-medication and role of pharmacist in patient education

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ABSTRACT:

Introduction: Pharmacy is the art, science and practice of preparing, preserving, compounding and dispensing of drugs and it also includes modern services related to health care including clinical services, reviewing medications for safety and efficacy, and providing drug information. The pharmacy services provided in India seem to be mainly product-sale focused and traditionally practiced with very minimum or negligible focus on the trending or modern clinical services such as patient education on prescribed medication and also over the counter medications which may be taken by the patient. Therefore, strategies are to be implemented and health system reforms need to be introduced to follow the trending clinical services in order to improve the quality of pharmacy services with the main aim of optimizing the patient care.

Objective: Assess self-medication and role of pharmacist in patient education in the Department of Pharmacy, Dr. B.R. Ambedkar Medical College and Hospital, Bengaluru.

Methodology: This was a Hospital based observational study, in which data collection was carried out over a period of 6 months from the outpatient pharmacy. Data was collected after obtaining consent from the patients. A self-designed questionnaire for assessing knowledge on self-medication and patient satisfaction were used for data collection. Then follow-up was made to assess improvement in medication adherence. The data collected was then analyzed using suitable statistical methods.

Result: A total of 250 patients were enrolled from the patients visiting out-patient pharmacy. Out of which, 60.8% were females and 39.2% were males. Among both genders females (60.80%) showed more interest in participating in our study. The mean age of the study subjects was found to be 37.86 ± 17.99 years. In our study which involved 250 patients, 42% (n=105) were found to be on self-medication. Out of 42%, 17.20% (n=43) were males and 24.80% (n=62) were females. The age group ranging between 40-59 years, 34.29% (n=36) were on high in number compared other age groups out of which 22.85% (n=24) were females and 11.44% (n=12) were males. Overall satisfaction was calculated using Likert scale, and the overall mean patient satisfaction score was found to be 4.56 ± 0.55 (a score of 5 indicated most satisfied and 1 indicated least satisfied).

Conclusion: The project aims to demonstrate the role of pharmacists in improving the patient health care and motivating the pharmacists not to limit the pharmacy profession to just dispensing. It is quite necessary to impart this knowledge to every pharmacy in India where it is practiced

traditionally with only dispensing as their main role and not extending further to better services like self-medication assessment and Improve medication adherence.

Abbreviations	Expanded form
ADR	Adverse Drug Reaction
ADE	Adverse Drug Event
CHD	Coronary Heart Disease
CVA	Cerebrovascular Accident
DM	Diabetes Mellitus
EMBASE	Excerpta Medica dataBASE
MPR	Medication Possession Ratio
MTM	Medication Therapy Management
n	Number
OTC	Over-the-counter

Abbreviations	Expanded form
PDC	Proportion of Days Covers
SGRQ	St. George Respiratory Questionnaire

Keywords: Hospital, pharmacy, hospital ambulatory, pharmacist, adherence, patient, satisfaction, medication, self medication.

INTRODUCTION

Pharmacy:

It is the art, science and practice of preparing, preserving, compounding and dispensing of drugs.¹The scope of pharmacy practice includes not only traditional roles such as compounding and dispensing medications, it also includes more modern services related to health care including clinical services, reviewing medications for safety and efficacy, and providing drug information. But this modern services are rarely practiced¹.

SELF-MEDICATION:

Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms.

It is the practice where individuals take medicines which are approved and safe and

effective when used as directed, to treat their ailments and conditions.

Requirements for self-medication:

1. Medicine used should be safe, effective and of standard quality.
2. These are the medicines indicated for conditions that are self-recognized and some chronic conditions.

Such products should be provided with information as follows:

- how to take the medicines
- effects and possible side-effects
- how the effects of the medicine should be monitored
- possible interactions
- precautions and warnings
- duration of use and

- when to seek professional advice.

Role of Pharmacist in self-medication:

Role of pharmacist has been changing since two decades, now the pharmacist is no longer a supplier alone but also a member of team involved in the provision of health care in community pharmacy, Hospital pharmacy, the laboratory, industry or academic institution.

Factors influencing self-medication are as follows:

Socioeconomic factors:

1. lifestyle
2. ready access to drugs
3. the increased potential to manage certain illnesses through self-care
4. public health and environmental factors
5. greater availability of medicinal products
6. demographic and epidemiological factors.²

In India, it is very common to see self-medication practice which is an emerging challenge to the health care providers.

There seems to be a paradigm shift in the scope of pharmacy services from more traditional roles such as compounding and dispensing medications to more active and modern roles in safety, risk management and other medication related consultation activities.

OBJECTIVES

1. To Implement strategies to improve patient knowledge such as envelope system, patient education (verbally and written) and leaflets.
2. To assess self-medication.

STUDY SITE

The study was conducted in the out-patient pharmacy in Dr. B. R. Ambedkar Medical College and Hospital, which is a 540 bedded multispecialty tertiary care teaching hospital in Bengaluru.

STUDY DESIGN

This study was a prospective Interventional study.

STUDY DURATION

This study was carried out for a period of 6 months.

- PLANNING – NOV 2016
- DATA COLLECTION – DEC TO FEB 2016 & 2017
- INTERPRETATION – MARCH 2017
- THESIS WRITING – APRIL 2017

STUDY POPULATION

This study was conducted in out-patient pharmacy and patients visiting out-patient pharmacy were enrolled.

SAMPLE SIZE

Patient details and all other medical relevant information of 250 patients was collected and documented.

STUDY CRITERIA

Inclusion Criteria

- a) All the patients visiting out-patient pharmacy
- b) Patients willing to co-operate and giving the informed consent.

Exclusion criteria

- a) Patients coming for follow-up/refill.
- b) Customers coming to purchase cosmetic products.
- c) Patients who purchase medicines through online orders.

SOURCE OF DATA

The data was collected from the in-patients and out-patient departments of general medicine. The different sources of data used were:

- Prescription of patients.

- Interaction with patients.
- Patient profile form.
- Medication purchased.

STUDY MATERIALS

- **Patient data collection form:** Data was collected by using a self-designed data collection form for all patients, which consists of details like age, sex, department, medicines, history of the illness, co-morbidities and other relevant information.
- **Self-medication questionnaire:** It consists of set of 5 questions for assessing knowledge of patient on self-medication.

STUDY PROCEDURE

All the patients visiting out-patient pharmacy were included into the study after obtaining the informed consent. All the relevant details including demographics, medications prescribed, duration of course, dose, frequency, self-medication assessment, history of present illness and comorbidities were collected and documented in designed patient profile form. The data was collected from all the patients (all ages) visiting out-patient pharmacy with a prescription and for the pediatric patient data was collected from their Bystander. Medication counselling and education along with patient information leaflet were provided to all the patients.

An education aid such as patient information leaflet which contains tips about storage, life style modifications, OTC usage, antibiotics

course of duration and precautions to be taken.

Self-medication was assessed by face to face interview and if the patient was on self-medication set of five questions^{13,14} based on patient’s knowledge such as purchase, side-effects, difference between prescribed and non-prescribed medication, concurrent use of medications and expiry date of medicines, were asked to the patient and the patient’s response was recorded in the form “Yes” or “No” and their respective percentage response was evaluated for each question. All the data was collected by face to face interview with the patient and recorded and documented by the investigator. The collected data was then entered in MS Excel® and the analysis for required parameters were done.

STATISTICAL ANALYSIS:

The collected data was analyzed for:

1. t-Test: Paired Two Sample for Means.
2. Percentage calculations wherever applicable.

RESULT

Gender Distribution:

In our hospital based interventional study conducted to improvise, implement and expand ambulatory pharmacy services for better health outcomes, 250 patients were enrolled from the patients visiting out-patient pharmacy. Out of which, 60.8% were females and 39.2% were males.

Table 1: Gender distribution of study patients.

Gender	Number (n)	Percentage (%)
Males	98	39.20%
Females	152	60.80%

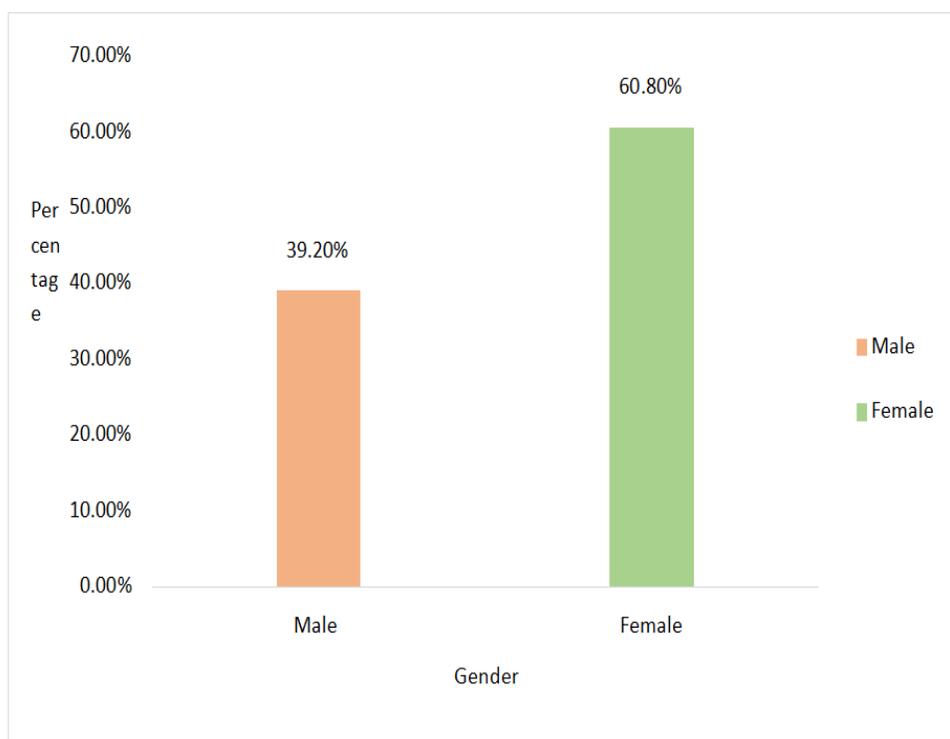


Fig-1: Gender distribution of study patients.

Among both genders females (60.80%) showed more interest in participating in our study.

Age Distribution:

In our study, all the age groups were included and the mean age of the study subjects was found to be 37.86 ± 17.99 years (Fig-2). The study subjects were divided into 5 different age groups as <18, 18-24, 25-39, 40-59 and >60 years.)

Table 2: Age-group distribution of study patients.

Age group	Number(n)	Percentage (%)
<18 years	27	10.80%
18-24 years	37	14.80%
25-39 years	70	28%
40-59 years	82	32.80%
>60 years	34	13.60%

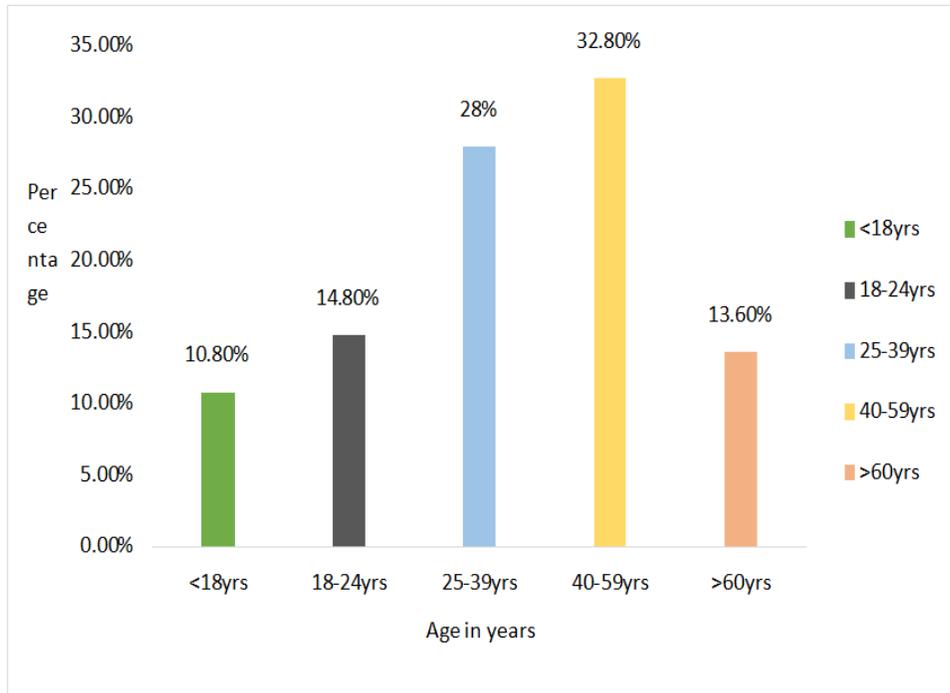


Fig-2: Age-group distribution of study patients.

Out of 250 patients the age group 40-59 years showed more interest in knowing about their medications and more co-operative participation was seen.

Departments: A different department of the patients in the study was taken into account.

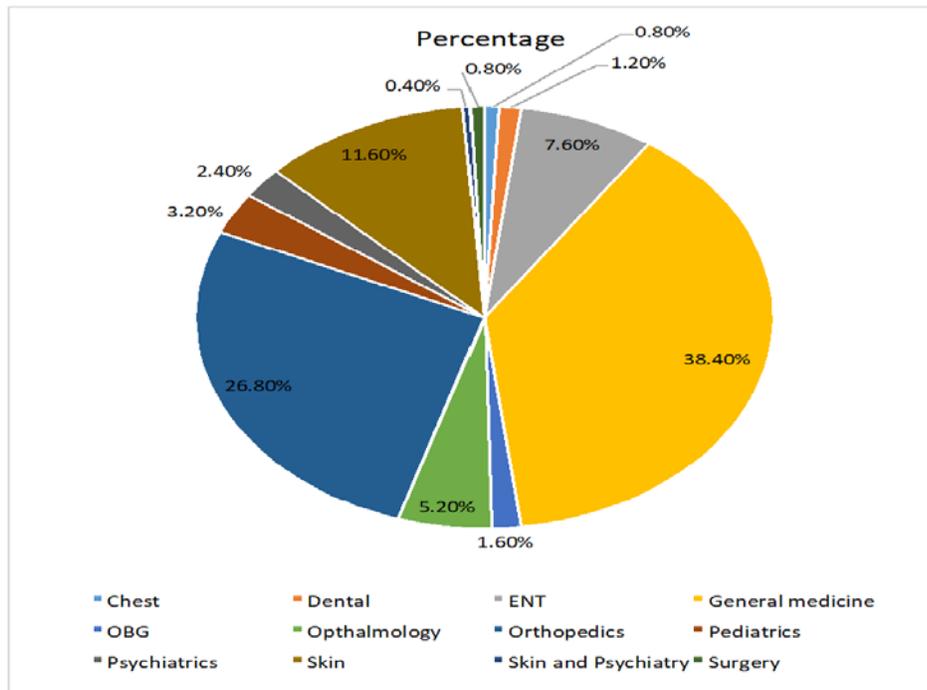


Fig-3: Classification of patients according to their department.

Education System Distribution:

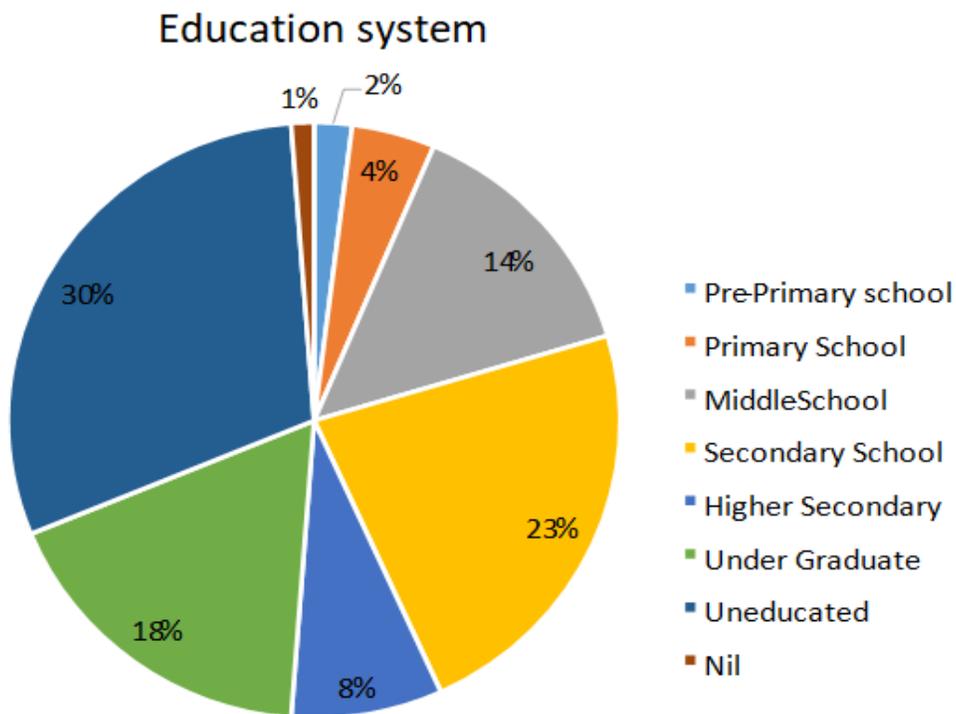


Fig-4: Classification of patients according to education system.

Self-medication: Out of 250 patients 42% (n=105) of patients were on self-medication

Table 3: Patients on self-medication.

Age group	Males		Females		Total	
	n	%	n	%	n	%
<18 years	4	3.80%	2	1.90%	6	5.7%
18-24 years	8	7.62%	9	8.57%	17	16.19%
25-39 years	13	12.39%	19	18.09%	32	30.48%
40-59 years	12	11.44%	24	22.85%	36	34.29%
>60 years	6	5.71%	8	7.63%	14	13.34%
Total	43	40.96%	62	59.04	105	100%

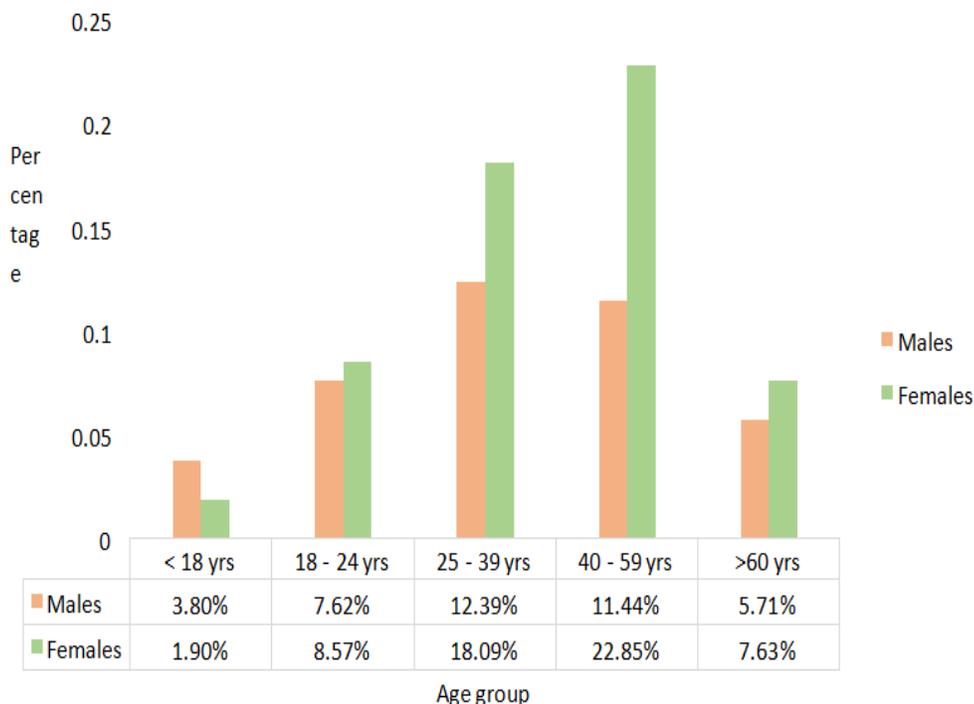


Fig-5: Patients on self-medication.

The distribution of gender in age group who are on self-medication showed that the age group 40-59years, 34.29% (n=36) were on high in number compared other age groups out of which 22.85% (n=24) were females and 11.44% (n=12) were males. It showed that females of age group 40-59years were more adherent to self-medication.

In order to assess the knowledge of the patient regarding medications, set of questions were asked and their response were evaluated as Yes% and No% as shown in Table-7.

Table 4: Patient knowledge on medication.

S. No	Question	Yes%	No%
1.	Do you know the drugs you buy in pharmacy needs prescription or not?	53.33%	46.66%
2.	Do you if the drug has side-effects?	47.61%	52.38%
3.	Have you ever taken prescribed and non-prescribed medication together?	58.09%	41.91%
4.	When you purchase medication in the pharmacy, do you inform the pharmacist about other medications you are currently taking?	24.76%	75.23%
5.	Do you check the expiry date before you purchase any medications?	42.85%	57.14%

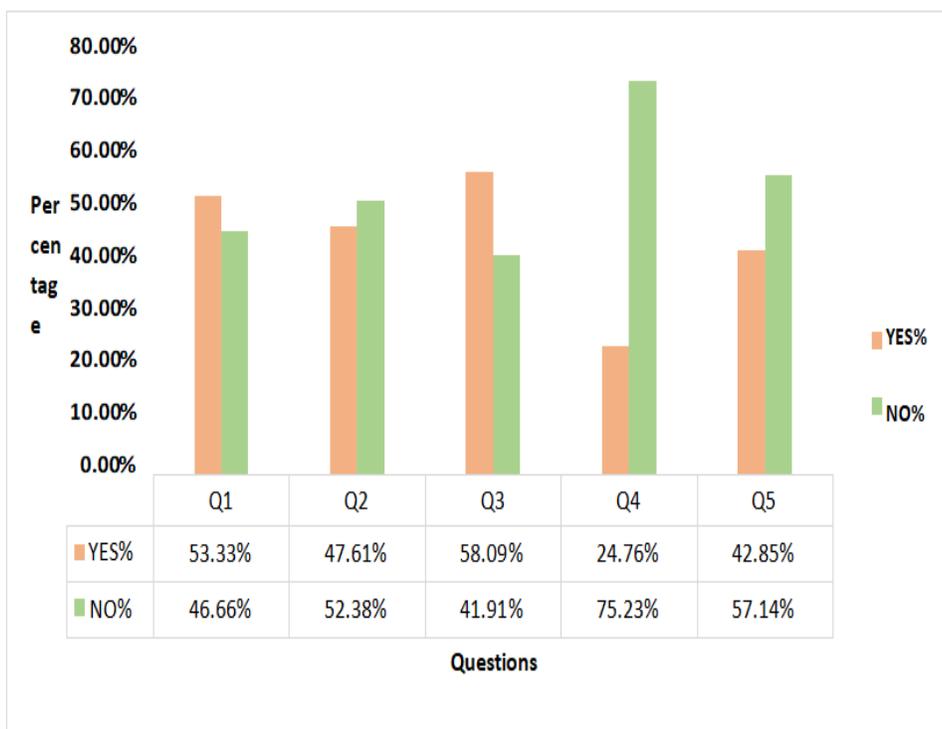


Fig-6: Patient knowledge on medication.

The medicines which were used by patients on self-medication were categorized as,

Table 5: Category of drug used.

Category	Number (n)	Percentage(%)
Antibiotic	1	0.95%
Alternative Medicine	3	2.85%
OTC	38	36.18%
Not known	63	60%
Total	105	100%

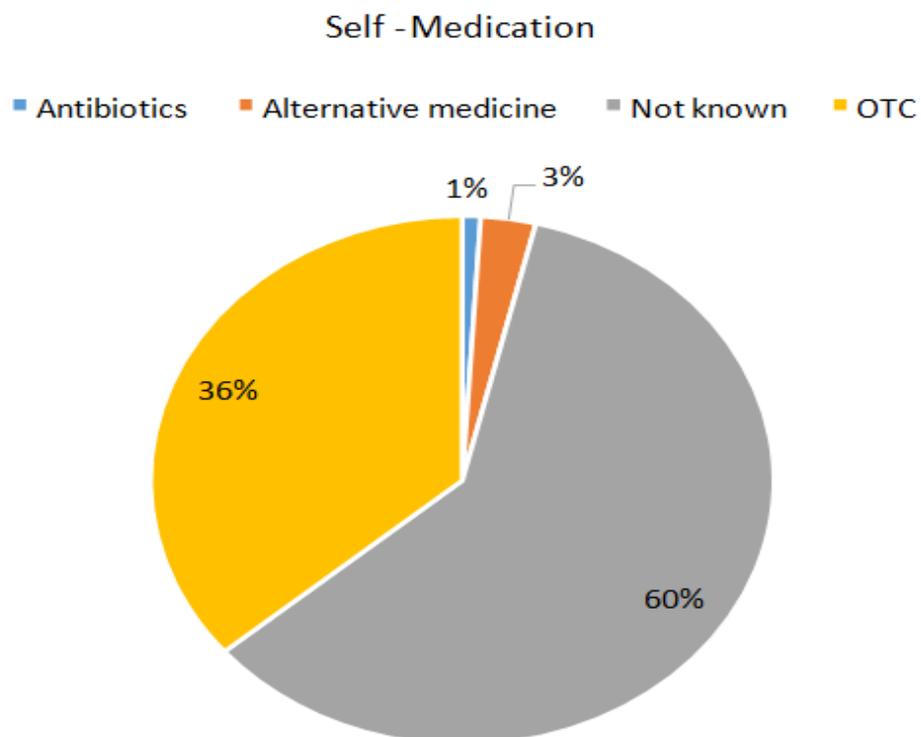


Fig-7: Category of drug used.

Out of 105 patients on self-medication, 60% (n=63) of patients didn't know the category of drug.

Discussion:

This study is believed to be important for the following reasons:

Firstly, envelope and stamp system was introduced along with the information leaflets to overcome problems associated with medication adherence especially for geriatric patients and uneducated patients.

Secondly, knowledge assessment on self-medication was done by using set of 5 questionnaires which were selected from two different articles according to the feasibility of our study patients.

Education:

Education of the patients plays an important role in understanding the medication information and adheres to medicines. Our

study showed 30% (n=75) of patients were uneducated which was a leading problem in adherence to the medication. To overcome problem associated with understanding about medication information and adherence to the medicines among uneducated patients, our study made intervention by designing a new discharge proforma in which we used envelope for each medicine and the envelopes were stamped with a logos representing "Morning, Afternoon and Night".

Self-medication:

In our study which involved 250 patients, 42% (n=105) were found to be on self-medication. Out of 42%, 17.20% (n=43) were males and 24.80% (n=62) were females. A set of 5 questions were prepared from the pretested questionnaire used in two different articles^{3,4} to assess the knowledge on self-medication. The results showed that 46.66% (n=49) of patients were unaware of the fact that the drugs they were buying actually needs prescription or not, 58.09% (61) of patients

were found have used prescribed medications along with nonprescribed medications, 75.23% (n=79) of patients inform the pharmacist about other medication that they are currently using, when buying medicine without prescription. This result is compared with the results found from a cross-sectional survey conducted in Riyadh city of Central Saudi Arabia by **Aljadhey H et al.**, on “Self-medication in Central Saudi Arabia in 5 community pharmacies in Riyadh city” where the results showed 68.20% (n=367) of patients were unaware of the fact that the drugs they were buying actually needs prescription or not, 18.10% (n=48) of patients were found have used prescribed medications along with non-prescribed medications and 44.50% (n=77) of patients inform the pharmacist about other medication that they are currently using, when buying medicine without prescription.³

Also our study showed that 52.39% (n=55) of patients were unaware of the side-effects of the drug and 57.15% (n=60) of patients were found to be not checking expiry date when they purchase drugs which is comparable to the prospective, cross-sectional, questionnaire based study conducted in a N. K P. Salve Institute of Medical Sciences and Research Centre, Nagpur by **Kasulkar AA et al.**, on “Self-Medication practices among medical Students of a private institute” , this study showed 17.10% (n=198) of students were unaware of the sideeffects of the drug and 7.40% (n=163) of students were found to be not checking expiry date when they purchase drugs.⁴

The self-medication assessment showed that the patients on self-medication were taking different categories of drugs which were as follows:

0.95% (n=1) of patients was on Antibiotics

2.85% (n=3) of patients were on Alternative medicines

36.19% (n=38) of patients were on OTC and 60 % (n=63) of patients were unaware of category

of drug they are taking which is comparable to the study conducted in Pakistan by **Maria Ayub et al.**, on “Prevalence and consequence associated with self-medication in our society: A Global issue” which showed 50% of NSAIDs, 21% of antiemetic, 10% of antibiotics, 5% of vitamins, 4% of antiallergics, 2% of b-blockers and 8% of antidepressant were the most commonly used drugs.⁵

Our study on self-medication assessment showed that the age group ranging between 40-59years, 34.29% (n=36) were on high in number compared other age groups out of which 22.85% (n=24) were females and 11.44% (n=12) were males. It showed that females of age group 40-59years were more adherent to self-medication than other this result is comparable with the other cross-sectional study conducted in Puducherry, India by **Selvaraj K et al.**, on

“Prevalence of self-medication practices and its associated factors in a medical institution in Urban Puducherry” which inferred that the prevalence of self-medication was found to be 11.90% in males >40years of age.⁶

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