

“A Community Based Interventional Study to Assess the Impact of Pharmacist Intervention in Improving the Knowledge, Attitude and Practice of Self-Medication in Dakshina Kannada”

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ABSTRACT

BACKGROUND: Self-medication is widely practiced throughout the world but the inappropriate use of medications may lead to many unwanted drug effects. Self-medication refers to the practice of taking medications by self without prescription of a physician or medical advice in order to prevent or treat a self-recognized disease or a symptom or to promote health. So, the main objective of the study is to assess the impact of pharmacist intervention in improving the knowledge, attitude and practice of self-medication, among the community. So, pharmacist plays an important role in ensuring the safe, effective and appropriate use self-medication.

MATERIALS AND METHODS: An interventional study was carried out among the voluntary participants residing in Dakshina Kannada with a sample size of 150 for a duration of 6 months with validated data collection form and patient information leaflets (PIL). Informed consent has been obtained from voluntary study participants and those who are replied for the survey were accepted and documented and the collected data was analyzed using Chi Square test and MS Excel 2021.

RESULTS: A total of 150 participants, 52% were females and 48% were males. Among them majority 52(35%) were belongs to the age group of 21-30, 44(29%) of age groups 31-40 and 50(34%) were above 41. During the Pre interventional study majority of participants i.e., 102(68%) practiced occasionally, 16(11%) practiced more often and 5(3%) practiced rarely and it was observed that self-medication was found to be high which were found to be reduced during post interventional Study. The number of people

who practiced self-medication very often has reduced to 5(3%). The most common factor for practicing self-medication was Time limitation 70(47%) and 33(22%) has Knowledge about the drugs and illness. The main sources of knowledgewere Previously used prescriptions 88(58%) and through the internet 30(20%). And most of the participants used self-medication mainly for minor illnesses such as 55(37%) used for Fever, 16(10%) used for cough, 55(37%) used for pain. Analgesics and antipyretics 92(61%) are most frequently self-consumed medications.

CONCLUSION: The outcome of the study show that self-medication practices are widespread in society and are used for a range of purposes. It is clear that inappropriate self-medication behaviors can harm the quality of patient treatment. Pharmacists are crucial when it comes to teaching patients about self-care and intervening to maximize drug usage.

It implies that society need more awareness regarding SM. The role of pharmacist is to bring awareness to the community about the impacts and risks of increased practice of self-medication and to educate the people about the safe practice as well as the harmful effects of practicing Self-medication.

KEYWORDS: Self-medication, PIL (Patient Information Leaflet), Knowledge, pre-intervention, post-intervention.

I. INTRODUCTION

Self-medication (SM) refers to the practice of taking medications by self without prescription of a physician or medical advice in order to prevent or treat a self-recognized physical or psychological disease or a symptom or to promote health.^[1] As

per WHO, self-medication is defined as the selection and use of medications by the individuals to treat self-diagnosed illnesses.^[2] Self-medication is also the intermittent or continuous use of a prescription substance for chronic or recurrent illnesses or symptoms. Utilizing over-the-counter (OTC), prescription-only, or complementary and alternative medicines as self-medication is possible. Self-medication (SM) cannot be regarded as a completely safe practice. It is widely practiced throughout the world but the inappropriate use of the medications may lead to many unwanted drug effects and numerous medical issues such as antibiotic resistance, misdiagnosis, use of excessive drug dosage, prolonged duration of use, Incorrect choice of therapy, drug interactions, adverse drug reaction (ADR) and polypharmacy.^[3] When practiced correctly, self-medication has a positive impact on individual and healthcare system. It allows patients to take responsibility and build confidence to manage their own health, thereby, promoting self-empowerment.^[4]

The major factors contributing to self-medications include the bulletins and advertisements of pharmaceutical companies, reading information about the drugs through internet and books, taking medications prescribed to other friends or family for similar complaints etc. Antacids, Cough syrups, Antihypertensives, Antidiabetic etc are some of the most commonly used self-medications.^[5]

It is not recommended to use medicine without a doctor's supervision because of using incorrect or insufficient dosages or excessive use of medications may increase resource waste, increased pathogen resistance, encourages drug dependence, and poses major health risks such as adverse drug reactions and extended suffering. Antibiotics are frequently available without a prescription in many underdeveloped nations, where the problem of antimicrobial resistance is particularly acute.^[6] 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.^[8] In India, it is very common to see self-medication practice and which is emerging challenge to health care providers.^[7]

Therefore, the government should implement the required measures to control ethical self-medication. This can be achieved by having

safe medications available along with clear usage instructions and, if necessary, consulting a physician.^[9]

Pharmacists are essential in recognizing, resolving, and eliminating drug-related issues in order to improve patient outcomes and quality of life. By considering the above-mentioned practices and beliefs this study was conducted to assess the knowledge, Attitude and practice of self-medication among the community in Dakshina Kannada and to bring the awareness to the community about the impacts and risks of increased practice of self-medication as well as to educate the community about the safe practice of self-medication.

II. METHODOLOGY:

2.1 MATERIALS AND METHODS

2.1.1 STUDY DESIGNS: The present work was a community based interventional study to assess the knowledge, attitude and practice of Self-medication in Dakshina Kannada for the duration of 6 months from January 2022 to June 2022.

2.1.2 SAMPLE SIZE: The study was limited to a sample of 150 based on the time schedule allotted for the project including other circumstances.

2.1.3 ETHICAL CLEARANCE: The study protocol was approved by the Institutional Ethics Committee (IEC) of Srinivas Institute of Medical Sciences, Mukka, Mangalore.

2.1.4 STUDY CRITERIA:

Inclusion criteria:

- Male and Female above 18 years of age
- Voluntary participants residing in Dakshina Kannada

Exclusion criteria:

- Age less than 18 years
- Critically ill patients.
- Patients who are not willing for the study.

2.1.5 SOURCE OF DATA: 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 through direct interaction with the subjects in the community of Dakshina Kannada and PIL (Patient information leaflet) was distributed to the subjects. The current study included participants from a variety of socio-demographic backgrounds. Among all participants, those who replied to the survey were accepted and documented as they gave consent to the study. Questions were clearly explained to the

participants in local language to make sure they clearly understand before filling the questionnaire. Each participants took 3-4 minutes to complete the questionnaires. The process was continued till the requirement sample was met.

2.1.6 STUDY METHOD:

- A Community based study which will be conducted according to the following operational modalities.

OPERATIONAL MODALITY:

1. Patient data collection form was designed as per the need of the study.
2. Ethical Committee approval was obtained before starting of this study.
3. Information regarding self-medication was given through systematically designed data collection form and patient information leaflet (PIL).
4. Pre-validated questionnaire was prepared and given to patients before and after intervention.

2.1.7 PRE-EDUCATIONAL INTERVENTION ASSESSMENT:

- **Sample Selection:** Samples will be segregated based on inclusion and exclusion criteria.
- **Obtaining informed consent:** Informed consent form will be obtained from the selected patient in English and Kannada.
- **Providing intervention:** Pharmacist intervention will be provided with Patient Information leaflet.

2.1.8 POST EDUCATIONAL INTERVENTION ASSESSMENT:

- **Sample Review:** After reviewing the scores of questionnaires, the samples were followed up after few days.
- **Patient information leaflet:** The patient information leaflet (PIL) is used to educate the patients about the practice of self-medication.
- **Source of Data collection:** Information provided by people.

2.1.9 DATA ANALYSIS:

- An interventional study was carried out among the voluntary participants residing in Dakshina Kannada with a sample size of 150.
- The study was conducted with a questionnaire delivered among the people in these locations.
- Among all participants, those who replied to the survey were accepted and documented as they gave consent to the study.
- The collected data is analyzed using Chi Square test and MS EXCEL 2021.

III. RESULTS:

3.1 DEMOGRAPHIC DETAILS OF THE STUDY PARTICIPANTS:

A present study included 150 participants from the community in Dakshina Kannada. Out of these participants 52% (78) females and 48% (72) males and 4(3%) were belong to the age group of 18-20, 52(34%) of age groups 21-30, 44 (29%) of age groups 31-40 and 50 (34%) were above 41.

Table 1. AGE DISTRIBUTION

AGE	PERCENTAGE %
18-20	4 (3%)
21-30	52 (35%)
31-40	44 (29%)
41+	50 (34%)

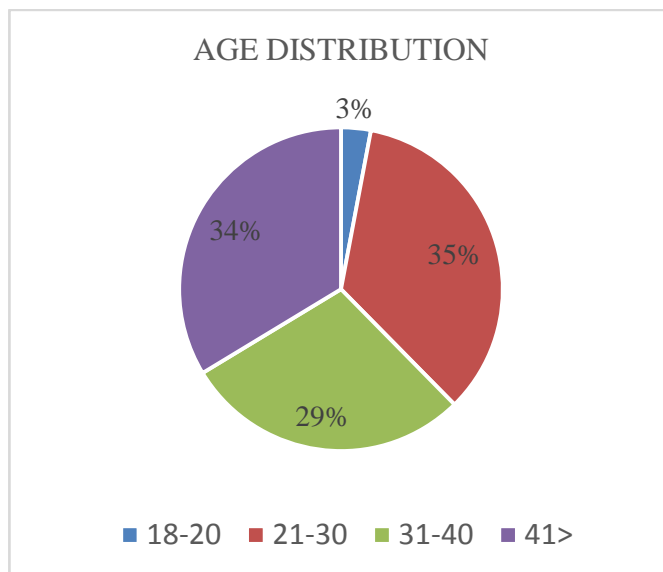


FIG.1 AGE OF THE POPULATION

Gender	Percentage
Male	72(48%)
Female	78(52%)

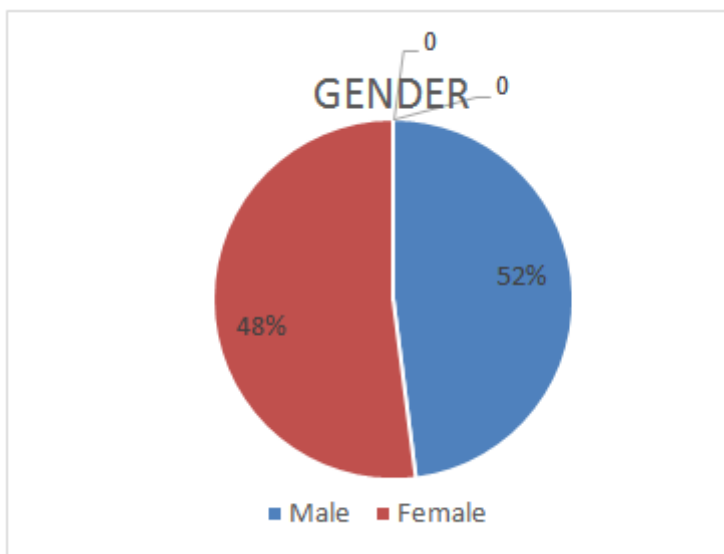


FIG 2: GENDER DISTRIBUTION

3.2 FREQUENCY OF PRACTICING SELF MEDICATION:

During the Pre interventional study, 27(18%) stated that they never practiced self-medication, 102 (68%) practiced occasionally,

16(11%) practiced more often and 5 (3%) practiced rarely, and during the Post interventional study 58(39%) participants stated that they practiced occasionally, 60(40%) practiced rarely. Whereas the number of people who practiced self-

medication very often has reduced to 5(3%). According to Chi Square test, P value was

significant at $P < 0.00001$. Hence indicating that the Pharmacist intervention was useful for the study.

FREQUENCY OF PRACTICE OF SELF MEDICATION	PRE-INTERVENTION	POST INTERVENTION	P VALUE
Always	16 (11%)	5 (3%)	<0.00001
Sometimes	102 (68%)	58 (39%)	
Never	27 (18%)	27(18%)	
Rarely	5 (3%)	60 (40%)	

TABLE 3: FREQUENCY OF PRACTICING SELF MEDICATION

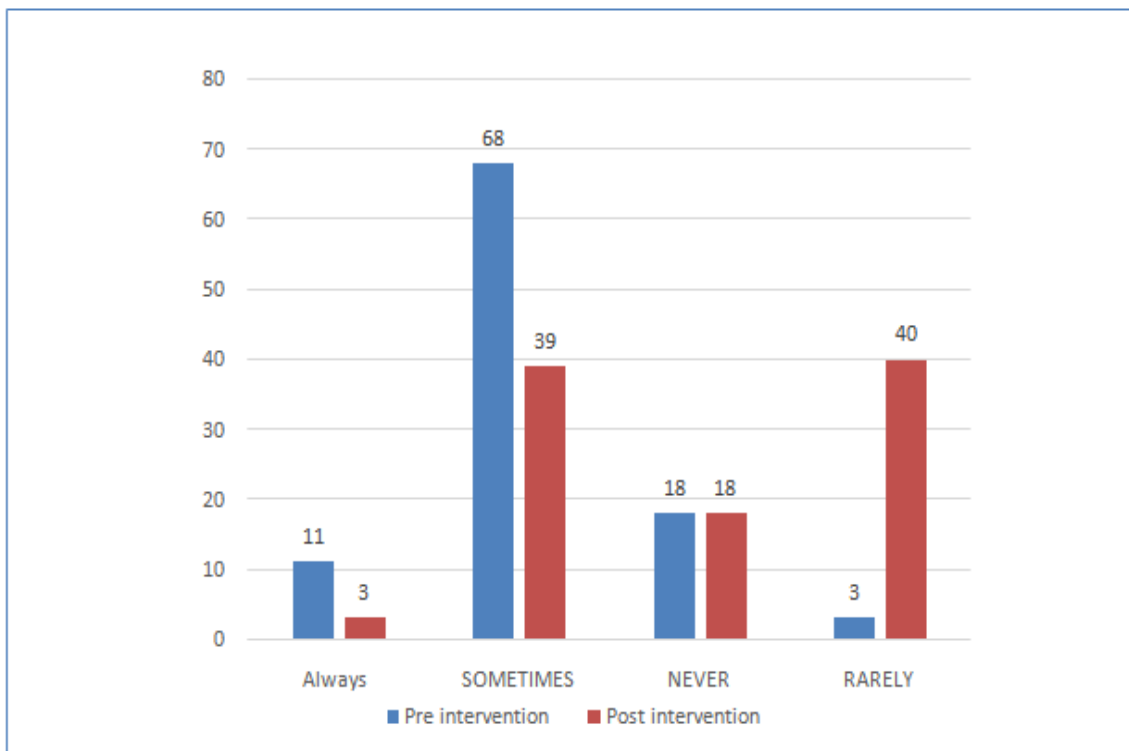


FIG 3: FREQUENCY OF PRACTICING SELF MEDICATION

3.3 REASONS FOR PRACTICING SELF-MEDICATION

To understand the mindset of the people, participants were asked about the reasons for practicing self-medication, majority of the participants 70 (47%) stated due to time

limitation to visit the formal health care facilities, and the second most common reason to self-medicate was due to knowledge about medication and illness 33(22%) such as effectiveness, dose and side effects, and 21(14%) participants prefer to visit community pharmacy due to high consultancy fees.

REASONS FOR SELF MEDICATION	PERCENTAGE (%)
High consultancy fees	21 (14%)
Knowledge about medication and illness	33 (22%)
Time limitation	70(47%)
NA	26(17%)

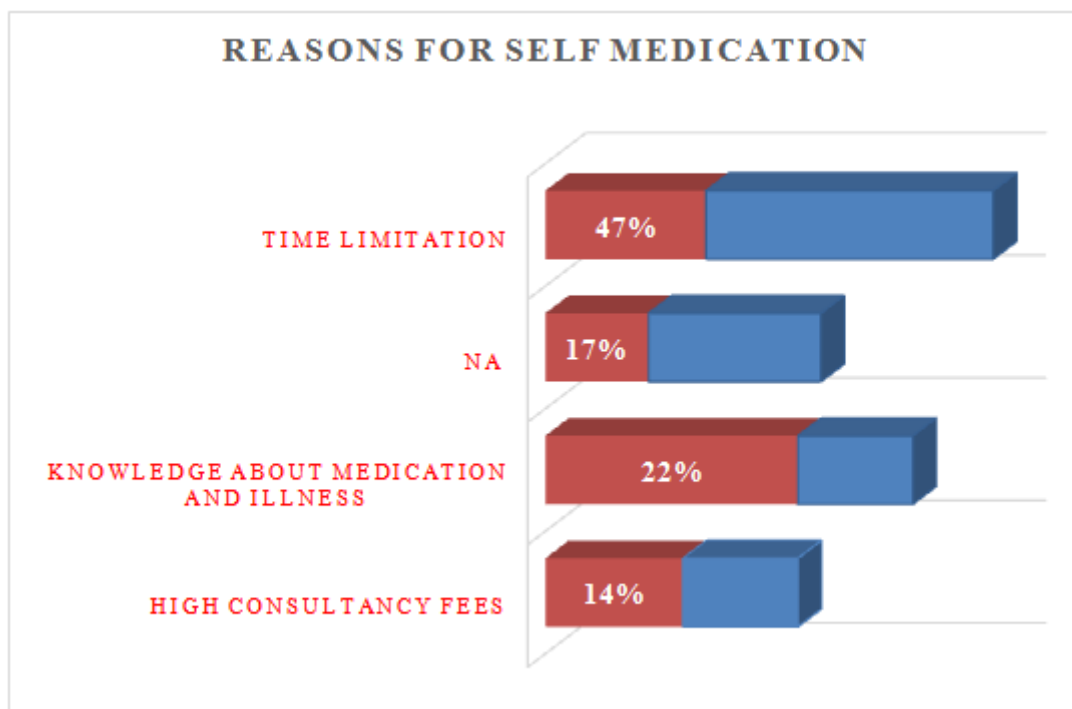


FIG 4: REASONS FOR SELF MEDICATION

3.4 SYMPTOMS FOR USING SELF MEDICATION:

The participants were asked about the symptoms for using self-medication, most of the

participants used self-medication mainly for minor illnesses. Participants responded that 55 (37%) used for Fever, 16(10%) used for cough, 55(37%) used for pain and 2(1%) used for other illnesses.

TABLE 5: SYMPTOMS FOR SELF MEDICATION

CONDITION FOR USING SELF-MEDICATION	PERCENTAGE (%)
Fever	55 (37%)
Cough	16 (10%)
Pain	55 (37%)
Other	2 (1%)
NA	22 (15%)

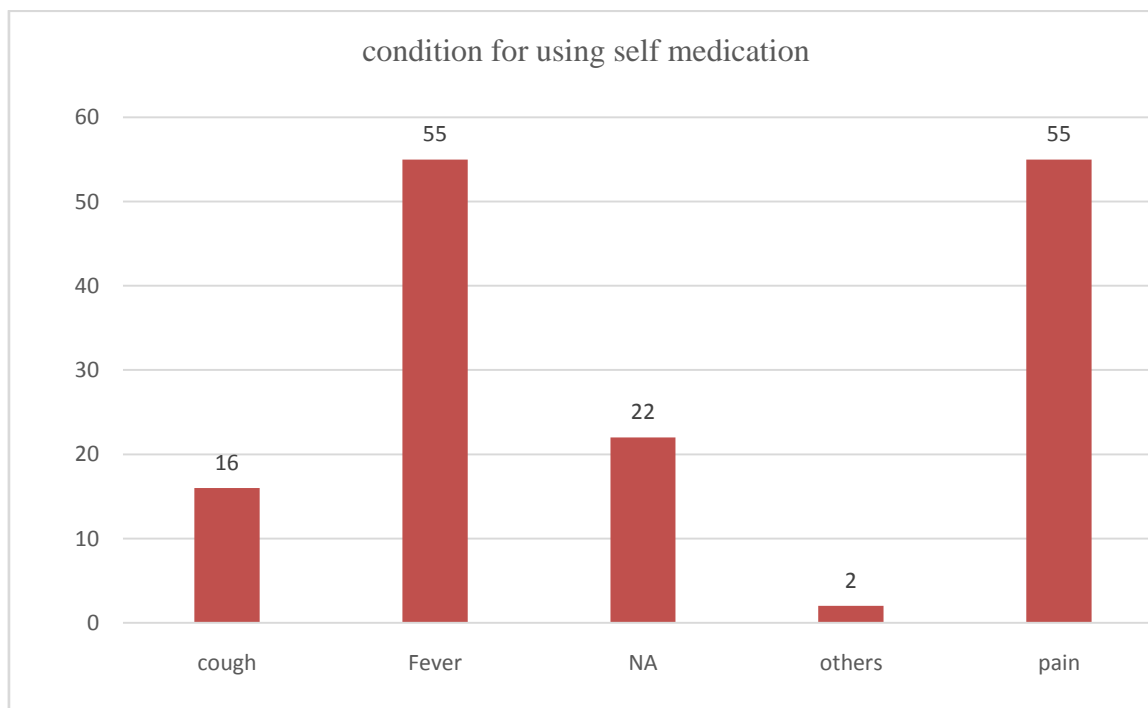


FIG 5: SYMPTOMS FOR SELF MEDICATION

3.5 TYPES OF MEDICATION USED:

• Table 6 indicates the types of medications used for self-medication among the respondents. The most commonly used medications were found

to be Analgesics and Antipyretics 92(61%), Homeopathic medicines: 3(2%), Ayurvedic medicines: 9(6%), Antibiotics:9 (6%), Other medications 12 (8%).

TABLE 6: TYPES OF MEDICATION USED

TYPES OF MEDICATION	PERCENTAGE %
Antibiotics	9(6%)
Analgesics and Antipyretics	92(61%)
Homeopathic medicines	3(2%)
Ayurvedic medications	9(6%)
Others	12(8%)
None	25(17%)

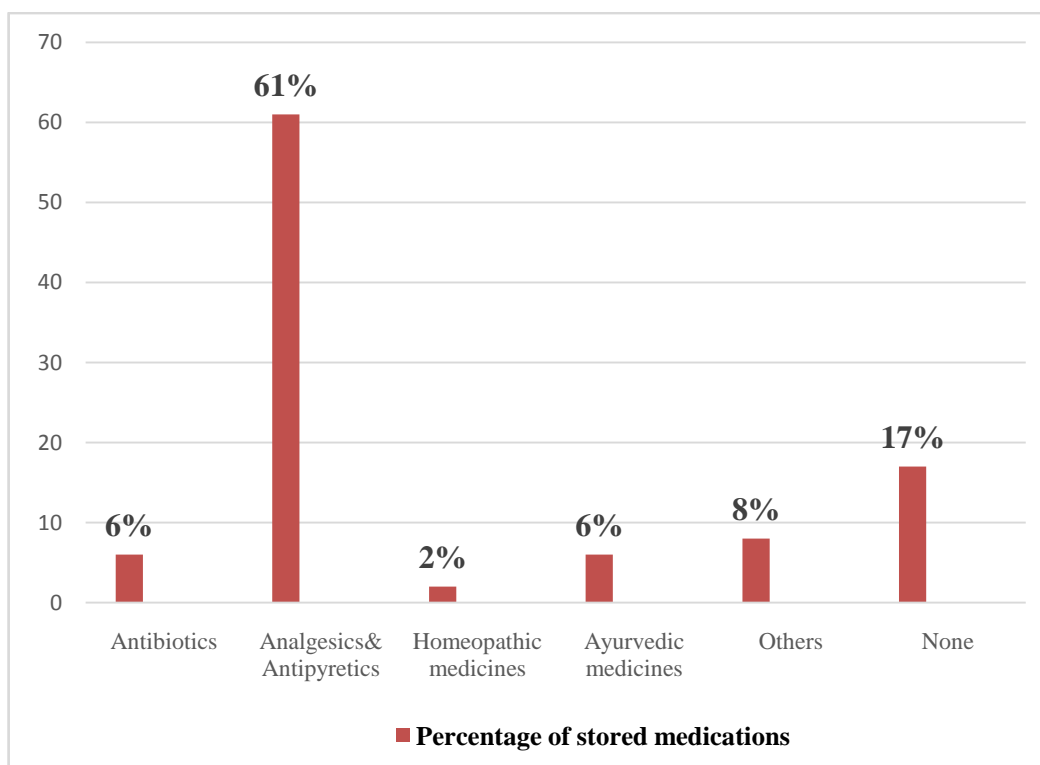


FIG 6: TYPES OF MEDICATION USED

3.6 SOURCES OF KNOWLEDGE:

Table 7 indicates the sources of knowledge about the medication from which the most common was Previous prescription 88(58%) and through internet 30(20%), Friends and colleagues 20(14%)

and advertisements are the least common source of information, reported by only 2% of the participants.

SOURCES OF KNOWLEDGE	PERCENTAGE %
Friends and colleagues	20(14%)
Internet	30 (20%)
Previous prescriptions	88 (58%)
Advertisements	3 (2%)
NA	9 (6%)

TABLE 7: SOURCES OF INFORMATION

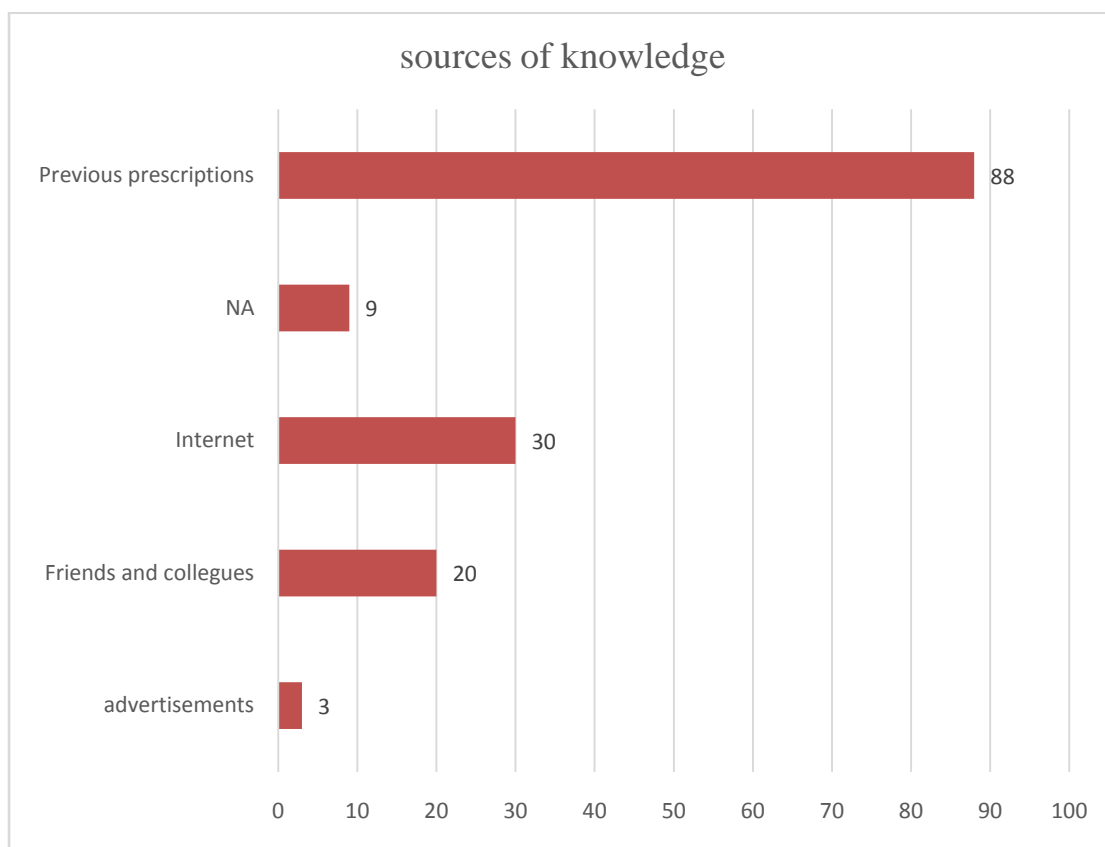


FIG 7: SOURCES OF KNOWLEDGE

IV. DISCUSSION:

Self-medication is commonly practiced throughout the world in both developed and developing countries. In this study, a community based interventional study was done to assess the Impact of pharmacist intervention in improving the

knowledge, attitude and practice of self-medication in Dakshina Kannada to improve the knowledge among the community about the harmful effects of inappropriate usage of medications. A total of 150 data was collected with the help of questionnaire and a patient information leaflet was provided to

each subject to improve the knowledge, awareness and to educate the community regarding the safe practice of self-medication.

The prevalence of self-medication practices shown by our study was very high among the community with prevalence of 82% in preceding 6 months and while this prevalence rate is similar to recent studies conducted in different parts of the world such as Egypt (73%)^[10], Palestine (87%)^[11], Vietnam (83.3%)^[12] and Pakistan (84.4%)^[13]. This difference may be contributed by different periods, sociodemographic factors and healthcare services.

Practicing self-medication was slightly higher among females 78(52%) than males as they are more involved in self-medication since they are the integral part of the family. The results were consistent with the similar studies conducted by Abdelwahed RNet al titled "Self-medication practices, prevalence, and associated factors among Syrian adult patients: a cross-sectional study".^[3]

Self-medication practice has been alarmingly prevalent among younger generation 52(35%) with the age group of 21-30 the similar study was conducted by Abhishek sharma et al titled "Medication storage and self-medication practice among the youth in Karnataka Region" showed that their higher level of information – as compared to that of the public- can be one of the reasons behind this phenomenon. Self-medication was also higher in elderly (34%) with the age group of 41+.

The high prevalence of Self-medication practice is mainly due to the time saving factor (47%), knowledge about the medication and illnesses among the health science students and for cost reducing reasons. It was clearly concluded in an article authored by A Sharma titled "Medication storage and Self-medication practice among the youth in Karnataka region".^[14]

During the Pre interventional study, it was found that among the 150 participants, 68% practised Self-medication occasionally, 11% practiced frequently and 18% never practised Self-medication. While in the Post interventional study, it was found that 39% practiced self-medication occasionally, 5% practiced constantly and 27% never practiced further. Initially it was observed that self-medication is widely practiced among the population. The people were educated about the safe practice as well as the harmful effects of practicing Self-medication. The main reason behind the wide practice of self-medication was due to time limitation of the people for consulting the

physician as well as the high consultancy fees.

Most of the participants responded that main sources of knowledge were Previously used prescriptions 88(58%) and through the internet 30(20%). And most of the participants used self-medication mainly for minor illnesses such as Fever 55(37%), 16(10%) used for cough, 55(37%) used for pain. Analgesics and antipyretics 92(61%) are most frequently self-consumed medications.

But after pharmacist intervention, it was showed a 31% improvement in the proper disposal practice of medications. The study and data were then analysed using MS Excel 2017 with the help of Chi Square test. When the Chi Square test was conducted, it gave a satisfactory result as expected. The knowledge of majority of the people were improved after they were educated about the importance of proper storage and disposal of medications. After education, the people were aware of the harmful effects of inappropriate practice of self-medication.

The data were found Significant according to Chi Square test, with P Value <0.00001.

V. CONCLUSION

The prevalence of self-medication among the target population was high. Most of the people were not aware about the proper usage of drugs. People were educated about the safe practice of medication with the help of patient information leaflet. Hence there was a significant improvement in the knowledge of people about the impacts and risks of increased practice of self-medication as well as to educate the community about the safe practice of self-medication. There was an improved response from the participants regarding the practice of safe practice of medications. Raising public awareness, culture-building, control & supervision of physicians and pharmacies performance can have beneficial effects in this study. Therefore, the government should implement the required measures to control ethical self-medication. This can be achieved by having safe medications available along with clear usage instructions and, if necessary, consulting a physician.

CONFLICT OF INTEREST: The study was approved by the Institutional Ethics Committee.

ETHICAL APPROVAL: The study was approved by the Institutional Ethics Committee.

ABBREVIATION:

SM: Self-medication; **PIL:** patient information leaflet; **OTC:** over-the-counter; **WHO:** world health organisation; **ADR:** adverse drug reaction.

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