

A SURVEY ON THE PREFERENCES, PERCEPTION AND VARIABLES INFLUENCING THE USE OF OTC DRUGS

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Abstract- The study aims to assess the preferences and attitudes toward the use of over the counter (OTC) drugs among local residents in a community pharmacy. The main objectives of the study are to determine the awareness on use of OTC drugs, literacy rate effect on OTC drug use, variables influencing public for self-medication and the respondent's preferences and attitudes on the safety of OTC drug use. Objectives and procedure of the study were explained to the participants and those who were willing to fill the informed consent form were included for the study. A feedback questionnaire covering various aspects of OTC drugs were distributed among the participants. Residents who have willingness to answer the questionnaire form after approaching the community pharmacy for OTC drugs. Data obtained was placed in a defined format using the Microsoft Excel software that will be used for descriptive analysis. Most of the people approached for the community pharmacy were approached to receive OTC drugs through pharmacists, doctors, priory followed by television, internet, family and friends, the major factors that influence them for self medication are prevention of known illness and mild ailments. Clients have different preferences and attitudes on the safety use of OTC drugs, of those majority of people have reported that consult of physician depending on the symptoms we have found. On considering the literacy rate into account for OTC drug use, highly educated people showed better usage of drugs compared to less standard education.

Index Terms- over the counter drugs, preferences, attitudes, variables

I. INTRODUCTION

One of the main causes of treatment costs is medication expenditures, which have been increasing over time. Therefore, prudent medication use is a crucial concern for pharmaceutical and health regulators looking to limit health care expenditures¹. OTCs, or over-the-counter drugs, are those that are available without a prescription. Over 300,000 distinct over-the-counter drugs are accessible just in the United States. The list of OTC

medications in modern life is expanding quickly due to the introduction of new formulations and prescriptions for OTC transitions.² In order to treat neglected or unrecognized diseases, over-the-counter (OTC) drugs must generally be used primarily to address conditions that do not require direct medical monitoring¹ and they need to be shown to be well tolerated and reasonably safe.⁴ The World Health Organization (WHO) views self-medication (SM), a prevalent practice, as a kind of self-care. WHO views responsible behavior as occurring when a person uses authorized and accessible products without a prescription. Only non-prescription, over-the-counter (OTC) drugs should be used for self-medication. OTCs must meet WHO standards for safety, dependability, effectiveness, ease of use, and convenience.⁴ Patient-directed healthcare, or responsible SM, is defined as a situation when the patient is more in charge of using an over-the-counter medication to treat a symptom or illness. Because they are the most dependable and easily accessible healthcare professionals, pharmacists are essential in this situation. If necessary and appropriate, the pharmacist should refer the patient to a physician.⁵

Geographical and demographic factors, as well as a person's health or beliefs, all have an impact on OTC use.⁶ One of the hottest topics in public health policy is the use of over-the-counter (OTC) drugs.⁷ Self-medication is becoming a major issue in health systems due to the rising cost of medications. Self-medication may lower healthcare costs if used properly, as the WHO advises. Nonetheless, the majority of people self-medicate due to a lack of knowledge about the contradictions and adverse

effects of medications. Lastly, this could lead to an increase in the expenditures of the healthcare system.¹ Because over-the-counter (OTC) medications are less costly than prescription pharmaceuticals and necessitate fewer doctor visits, healthcare costs are reduced. OTC, however, has several risks, such as psychological harm (e.g., opiate addiction) and physiological side effects (e.g., gastrointestinal hemorrhage, end-stage renal disease).⁶ Factors influencing SM include socioeconomic status, lifestyle, easy access to medications, patient satisfaction with the healthcare provider or providers, drug cost, exposure to advertisements, internet access and usage skills, family influence, educational attainment, age and gender, pharmacists, previously prescribed medication, or recommendations from advertisements in newspapers or popular magazines. Additionally, people are more likely to utilize SM if they had previously used it and had a moderate condition.⁸

Self-medication is more common among university students than in the general population.¹ The use of over-the-counter drugs is unrestricted in India. The absence of strategic planning for the use of over-the-counter pharmaceuticals leads to chaos, and there are many reasons for these concerning situations. Due to their hectic lifestyles and financial difficulties, people may get dependent on over-the-counter drugs. In India, it was discovered that those who were literate had a 76% higher likelihood of self-medicating than those who were not.² The ability of consumers to properly comprehend and use prescription and over-the-counter pharmaceuticals is essential to their safety. On the other hand, over-the-counter medications are distinct in that they don't need a prescription to be used, which means that additional choices must be made. Adverse drug events (ADEs) result in a significant number of hospitalizations and deaths among the elderly each year. Despite this, a lot of individuals think over-the-counter (OTC) medications are safer and less harmful than prescription ones. Some factors, such as female sex and higher levels of education, have been linked to higher rates of over-the-counter drug usage, according to earlier studies. Moreover, polypharmacy, the practice of taking more than five prescribed medications, is associated with a number of chronic illnesses and diseases in the elderly. Thus, the use of over-the-counter medications is associated with polypharmacies.³ Because some drugs, like over-the-counter (OTC) medications, are so easily accessible, people have started self-medicating by using previous prescriptions and advice from non-health system sources, including friends, family, online social networks, and internet search engines. Additionally, the media is crucial because it directly distributes advertisements for OTC medications.⁹ Unfortunately, most people who take over-the-counter medications, herbal remedies, and nutritional supplements are ignorant of how they impact their metabolism, health, blood test results, and drug interactions. A recent study conducted in

Australia found that pharmacy staff members usually do not provide OTC customers with sufficient verbal information. Additionally, even if they were familiar with the product, customers in the same survey did not read OTC labels or leaflets.¹⁰

The administration of drug and medical product supply and advice on appropriate medication use form the foundation of the pharmaceutical service. After completing an internship and graduation, a pharmacist can independently dispense medications and medical supplies and offer guidance on their appropriate usage, mechanism of action, adverse effects, and possible combinations. In addition to prescription drugs and medical supplies, every pharmacy carries a variety of over-the-counter (OTC) treatments. The most approachable medical professionals are pharmacists, and pharmacies are medical facilities that are often open twenty-four hours a day, seven days a week, without an appointment. Excellent pharmacy practice requires a pharmacist to always keep the patient's well-being in mind, regardless of the time or setting. Pharmacists' recommendations for over-the-counter drugs and products should therefore be based primarily on medical considerations.¹¹

II. MATERIALS AND METHODS

Objectives and procedure of the study were explained to the participants who approached community pharmacy for OTC drugs and those who were willing to fill the informed consent form were included for the study. Residents who are in hurry, who came for prescription medication and those who are not willing to fill the questionnaire form were excluded from the study.

A feedback questionnaire covering various aspects of OTC drugs were distributed among the participants. The questionnaire form contains data regarding demographic details; factors for self medication including Emergency use, Prevention of known illness, Prior experience with self Medication, Mild ailments, Avoid consultation fee, Cheaper price; Source of information on OTC drug use like Doctor, Pharmacist, Friends, Family, Internet, Television, I don't look for information, I know what ails me; drugs they have taken; frequency of purchasing OTC drugs; and questions to assess respondent's preferences and attitudes on the safety of OTC drug use including Consulting treatment method with doctor or physician, Familiarizing oneself with the drug information leaflet, Do you know that intake of active substance in higher

dose than recommended can pose an immediate threat to human life or health, Do you look for date of expiry before use, How to proceed with expired or unnecessary drugs, Do you look for caution about use or warnings on the label before use.

All data obtained was placed in a defined format using the Microsoft Excel software, that will be used for descriptive analysis.

III. RESULTS AND DISCUSSION

AGE OF THE CLIENT	Number of patients	%
15-30	161	64.45%
31-45	61	24.49%
46-60	19	7.64%
61-75	06	2.41%
76-90	02	0.89%
GENDER OF THE CLIENT	Number of patients	%
MALE	147	59.03%
FEMALE	102	40.96%
SOCIAL ECONOMIC STATUS	Number of patients	%
High	84	33.73%
Low	16	6.42%
Medium	149	59.83%
GEOGRAPHICAL LOCATION	Number of patients	%
Rural	146	58.63%
Urban	103	41.36%
EDUCATIONAL STATUS	Number of patients	%
No Formal	24	9.63%
Primary	23	9.23%
Secondary	32	12.85%
Under Graduation	87	34.93%
Graduation	65	26.10%
Post Graduation	18	7.22%

SMOKING STATUS	Number of patients	%
Smoker	09	3.61%
Occasional Smoker	26	10.44%
Ex Smoker	07	2.81%
Never Smoke	207	83.13%
ALCOHOL CONSUMPTION	Number of patients	%
Consumer	05	2.00%
Occasional Consumer	45	18.07%
Ex Consumer	05	2.00%
Never Consumer	95	77.911%
MARITAL STATUS	Number of patients	%
Single	105	42.16%
Married	144	57.83%
EMPLOYMENT STATUS	Number of patients	%
Employed	88	33.33%
Self Employed	39	15.66%
Business	22	8.83%
Unemployed	29	11.64%
Student	65	26.10%
Retired	11	4.41%
SPECIAL STATUS	Number of patients	%
Pregnant Women	01	0.40%
Lactating Women	01	0.40%

Of 249 clients approached community pharmacy who are willing to participate in the study, the demographic details reveals that the maximum percentage of clients (64.45%) were between 15–30-year age group followed by 31-45(24.49) years. The approach and the acceptance to involve in the study

was greater in male (59.03%) compared to female (40.96%). Most of the people who outlook the pharmacy Rural area (58.63%) than from urban (41.36%) having from medium social economic status for 59.83%, followed by high social economic status (33.73%). On an account of educational status, majority of the people to whom the drugs have been dispensed are Under Graduates (34.93%) and Graduates (26.1%). It was found that maximum number of people doesn't smoke (83.13%), similarly, majority of people included in the study has reported that they have never consumed alcohol (77.9%). Most of the people involved in the study are married (57.83%). On an occasional basis, we found that a greater number of people are found to be employed (33.33%), followed by students (26.1%), self-employed is working on a daily basis (15.66%). During the study period, we have found of dispensing OTC medicines to only one pregnant and one lactating women.

Table 2. Shows Reason for OTC Drug dispensing

	Number of patients	%
Family	58	23.29%
Self	172	69.07%
Both	19	7.63%

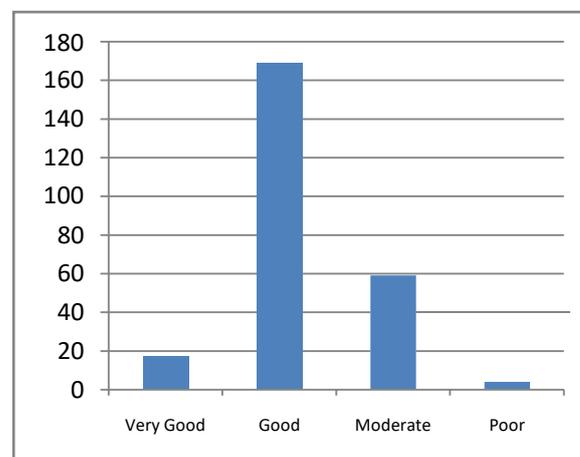
Of 249 patients included in the study, majority (69.07%) have approached community pharmacy for their personal use, and some for their family members (23.29%) and some have received medicines for both self and for family.

Table 3 . Shows Medical Criteria

Current Medical Problem	Number of patients	%
Minor Ailments	216	86.74%
Hyper Tensions	12	4.81%
Covid-19	02	0.89%
Diabetes	13	5.22%
Iron Deficiency	04	1.60%
Vitamin Supplements	02	0.89%
Known Allergies	Number of patients	%
No	234	93.97%
Dust Allergy	13	5.22%
Food Allergy	2	0.89%
Side Effects Upon Exposing to OTC Drugs	Number of patients	%
Yes	4	1.60%
No	245	98.39%

Most of the people have received the medication for minor ailments (86.74%) like cold, cough, fever, body pains, followed by chronic conditions such as hypertension (4.81%) and diabetes (5.22%) followed by receiving iron supplements (1.6%) and vitamin supplements (0.9%) and during this person about 0.9% people take medicines to treat COVID. Of the patient who are using OTC drugs in this study period 5.22% have reported dust allergy (5.22%) and few has food allergy (0.89%) and maximum number of people doesn't have any known allergies for OTC drugs. Also, only few people (1.6%) have reported that they have experienced side effects upon using OTC drugs earlier.

Figure 1. Shows Self Reported Health Status



Of 249 people included in the study, 169 of them has reported that their health status was good (67.87%) and receiving the drugs for minor ailments with less severity, to create the progression of that condition and 59 has reported that their health status was moderate (23.69%) and 17 as very good (6.82%) that includes, who are receiving some vitamin supplements and those who are on Tx for chronic diseases with good quality of lime. A four people have reported their health status was poor (1.6%)

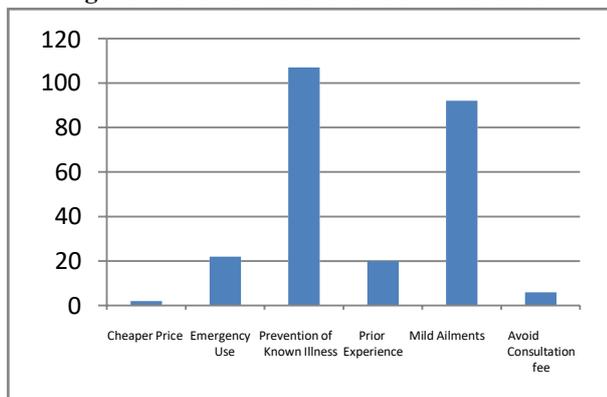
Table 4. Shows Treatment Other than Allopathy

	Number of patients	%
No	244	97.99%
Homeopathy	03	1.20%
Ayurvedic	01	0.40%

Unani	01	0.40%
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Some of people who approached community pharmacy are using other modes of treatment along with Allopathy that includes Homeopathy (1.2%) Ayurvedic (0.4%) and Unani (0.4%).

Figure 2. Shows Factors for Self Medication



As a part of the study, we have observed, what are the various factors influencing the self-medication, that includes the most common factor prevention of known illness (42.97%). This is the common reason why the people choose OTC drugs without going to the physician. The other factors include “Treatment for mild ailments” (36.94%) followed by “Emergency use” (8.83%), just to decrease the severity before moving to the physician, followed by prior experience with the medication (8.03%). Some move for OTC drugs “To avoid consultation fees” (2.4%) and some approach them because of “Cheaper price” (0.8%).

Table 5. Shows Sources of Information on OTC drugs

	Number of patients	%
Doctor	58	23.29%
Pharmacist	147	59.03%
Family	8	3.21%
Friends	3	1.20%
Television	19	7.63%
Internet	12	4.81%
I Don't Look For Information, I Know What Else I Am Doing	2	0.8%

Of all the people included in the study, there are several sources of information on OTC drugs for them, that include „pharmacists“ as the major source of information about OTC drug use (59.03%), followed by „Doctors“ (23.29%) and via

„Television“ (7.63%), „Internet“ (4.8%), through family members (3.21%) and friends (1.2%) and a few people reported that „I don't look for the information“, „I know what else I am doing“ (0.8%).

Table 6. Shows OTC drug Dispensing

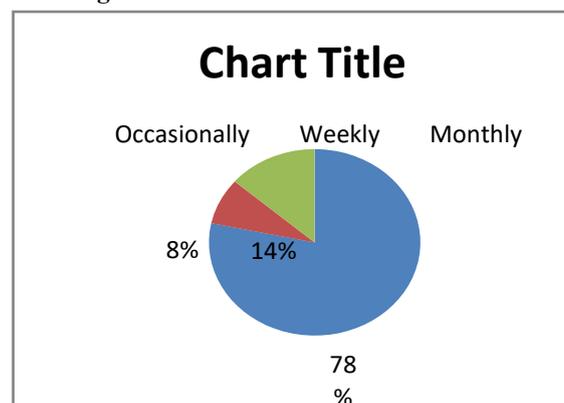
Drug Formulation	Total
Tablets	313
Syrups	22
Drops	10
Ointments	15
Sachets	11
Spray	3

Of all the drugs dispensed to the people involved in the study, major number of formulations are Tablets, followed by syrups, ointments, sachets, drops and sprays. Majority of the patients have received only one drug (61.04%), followed by two drugs (30.92%) and these drugs (5.62%), few people have dispensed with four to seven drugs (0.8%, 0.8%, 0.4%, 0.4%, respectively).

Table 6.1. Shows OTC drug Dispensing

Number of drugs	Number of Patients	%
1	152	61.04%
2	77	30.92%
3	14	5.62%
4	2	0.80%
5	2	0.80%
6	1	0.40%
7	1	0.40%

Figure 3. Shows Frequency of Purchasing OTC drugs



Most of the people has reported that they purchase OTC drugs occasionally (78.31%) whenever necessary and few have reported that they purchase weekly (8.03%) and monthly (13.65%).

Table 7. Shows Respondents Preferences and Attitudes on safety of OTC drugs

CONSULTING TREATMENT METHOD WITH DOCTOR OR PHYSICIAN	FREQUENCY	PERCENTAGE
ALWAYS	35	14.05%
OFTEN	7	2.81%
DEPENDING ON SYMPTOMS	173	69.47%
RARELY	28	11.24%
NEVER	6	2.40%
FAMILIARIZING ONESLEF WITH THE DRUG INFORMATION LEAFLET	FREQUENCY	PERCENTAGE
YES	36	14.45%
EVERYTIME	32	12.85%
SOMETIMES	70	28.11%
RARELY	58	23.29%
NEVER READ THE LEAFLET	53	21.28%
DO YOU KNOW THAT INTAKE OF ACTIVE SUBSTANCE IN HIGHER DOSE THAN RECOMMENDED CAN POSE AN IMMEDIATE THREAT TO HUMAN LIFE	FREQUENCY	PERCENTAGE
DEFINITELY YES	196	78.71%
RATHER YES	25	10.040%

NO	09	3.61%
ON OPINION	19	7.63%
DO YOU LOOK FOR DATE OF EXPIRY BEFORE USE	FREQUENCY	PERCENTAGE
ALWAYS	157	63.05%
OCASSIONALLY	68	27.30%
RARE	15	6.02%
NEVER	09	3.61%
HOW TO PROCEED WITH EXPIRED OR UN NECESSARY DRUGS	FREQUENCY	PERCENTAGE
ALWAYS BRING THEM BACK TO THE PHARMACY	83	33.33%
SOMETIMES BRING THEM BACK	47	18.87%
I DONOT BRING THEM BACK OR THROW AWAY	115	40.18%

DO YOU KNOW THAT INTAKE OF ACTIVE SUBSTANCE IN HIGHER DOSE THAN RECOMMENDED CAN POSE AN IMMEDIATE THREAT TO HUMAN LIFE	DEFINITELY YES	RATHER YES	NO	NO OPINION
NO FORMAL	10	8	2	4
PRIMARY	10	2	1	10
SECONDARY	24	4	0	4
UNDERGRADUATION	72	9	5	1
GRADUATION	62	2	1	0
POST GRADUATION	18	0	0	0
DO YOU LOOK FOR DATE OF EXPIRY BEFORE USE	ALWAYS	OCCASIONALLY	RARELY	NEVER
NO FORMAL	9	6	6	3
PRIMARY	11	6	3	2
SECONDARY	21	7	2	2
UNDERGRADUATION	53	29	4	1
GRADUATION	45	20	0	1
POST GRADUATION	18	0	0	0

Table 8. Shows Effect of literacy rate on OTC drug use

CONSULTING TREATMENT METHOD WITH DOCTOR OR PHYSICIAN	ALWAYS	OF TEN	DEPENDENT ON SYMPTOMS	RARELY	NEVER
NO FORMAL	3	0	17	2	2
PRIMARY	3	4	11	4	1
SECONDARY	4	0	24	4	0
UNDERGRADUATION	11	0	65	8	3

GRADUATION	10	2	45	8	0
POST GRADUATION	4	1	11	2	0

When the effect of literacy rate on the usage of OTC drugs was observed, it was found that some people answering that they don't know the risk and have no opinion on access consumption of drugs. So, educating the public regarding this prospect was also important. Upon raising the question on expiry date of drugs such as "whether they look for date of expiry before use" and "how will the process the expiry or unnecessary drugs?" we found out the most of the people look for the expiry date always and some occasionally. Few people have reported that they look for expiry date rarely and some are neither. Here all the post graduates they look for expiry always before they use and majority of graduates and under graduates are also on the best part of the use that explaining the risks of consuming expired drugs have to be educated. Most of the people upon noticing the expiry date they do not bring back the drug to the pharmacy or throw away. But some people answered, they bring back sometimes and throw away some times. Also, good percentage of people answered that they bring back the expired date to the pharmacy. We found the most of the under graduates, graduates and postgraduates always look for caution about use on the label of the formulation before consumption.

By comparing all these aspects of OTC drug use on literacy rate, we found that proper use of OTC drugs was commonly seen in educated people, compared to people with less standards in education. Also, we can say that all the educated do not go through proper way of consuming OTC drugs and all the uneducated/ less standard education are going through improper usage of drugs. Consulting treatment method with doctor and physician, most of the people prefers consulting a physician depends on the symptoms they are experiencing and next majority of clients prefer physician always even in the minor ailments and a few people of less education answers that they never visit the physician whatever the condition may be.

Upon comparing the aspect of familiarizing, oneself with the drug information leaflet, we have found that irrespective of the

education level most of the people answer, they go to the leaflet sometimes, rarely and some people will never go through that, so we find out to educate the people regarding these drug information leaflets is necessary to increase the rational usage of OTC drugs

IV. CONCLUSION

Most of the people approached for the community pharmacy were awarded of dispensing OTC drugs through pharmacists, doctors, priorly followed by television, internet, family and friends the major factors that influence them for self medication or prevention of known illness and mild ailments. Clients have different preferences and attitudes on the safety use of OTC drugs, of those majority of people have reported that consult of physician depending on the symptoms we have found that most of the people have no familiarize with the drug information leaflet provided along with the formulation. Moving to the aspect of knowledge on the risk of excessive consumption of drugs, most of the people are aware of that, but there are much percentage of people who are unaware. Great percentage of people look for the expiry date before use and return those days to the pharmacy back and some have reported that they go through the warning/ cautions present on the label before use.

On considering the literacy rate into account for OTC drug use, highly educated people showed that usage of drugs compared to less standard education, even low educating the people regarding different aspects such as consulting the physician is necessary for prolonged period of symptoms or in case of improper diagnosis; let them know about the availability of drug information leaflets and their importance; Risks associated on consumption of excessive dose or unnecessary drugs; importance of looking to the expiry date before use and the complication associated upon consumption expired drugs ; and about the need to look over the caution and warnings label down the formulation before use.

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