

## Study on Self Medication Patterns and Perspectives of Over-the-Counter (OTC) Drugs

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### ABSTRACT

The increasing trend in self-medication with over-the-counter drugs may raise the interactions, adverse reactions and misuse / abuse of such products. Hence the aim of the study was to investigate the self-medication patterns as well as the general public's opinion and perceptions regarding safety, potency and effectiveness of OTC medicines. Study was carried out as a structured interview technique by using a questionnaire. Out of 250 participants, at most one-third of the participants (27.38%) reported buying OTC drugs monthly and the majority (77%) always or often follow the directions on the packages. The main factor which most frequently influence the choice of OTC medications was the previous usage of medication (50.39 %). This study revealed that OTC stockage at home was very common. Regarding safety, potency and effectiveness showed that about (77.38%) participants agreed the longer usage may cause dependency or addiction, incorrect usage produce serious problems (76.19%) followed by (72.22%) participants reported continuous usage may lose the effectiveness of the OTC drugs. This survey revealed that general public had a high level of awareness about safety, potency and effectiveness of OTC medication.

**Keywords:** Adverse drug reaction, complementary and alternative medicines, drug interaction, new drug application, over the counter, prescription only medicine

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### INTRODUCTION

NATURE always stands as a golden mark to exemplify the outstanding phenomenon of symbiosis and it provides a complete storehouse of remedies to cure all ailments of mankind. [1] The knowledge of drugs has accumulated over thousands of years as a result of man's inquisitive nature so that today we possess many effective means of ensuring health-care. [2]

Over The Counter (OTC) drug is a medicine that is available without a prescription, and hence also referred to as 'nonprescription drug'. The class of OTC drugs includes vitamins, tonics, iron preparations, analgesics, NSAIDS, cough mixtures, skin care products, sore throat products, drugs for fever, laxatives etc. [3]

As there is an increasing trend in the usage of OTC drugs that can lead to unwanted drug interactions, ADRs, misuse/abuse of drugs. So it is advisable to assess people

knowledge and understanding about OTC drugs. [4]

### OVER THE COUNTER DRUGS: HISTORICAL BACKGROUND

Before FDA existed, just about anything could be put in a bottle and sold as a sure-fire cure. Alcohol, cocaine and opium were included in some OTC products without notification to users. [5]

In 1938, the food, Drug and Cosmetic (FD&C) act was enacted, which gave the FDA some authority to issue regulations. But the act does not provide clear guidelines to distinguish between prescription and over the counter drugs. An amendment to the FD&C act in 1951, defined as the prescription drugs are compounds that could be habit forming, toxic or unsafe for use except under a doctor's supervision. Anything else could be sold over the counter. [6]

### OTC SCENARIO IN INDIA

In India the prescription drugs are listed under schedule 'H'. There are about 570 molecules in schedule 'H' category that are stocked in a total of 5 - 8 lakh retail chemists. Currently non-pharmacy stores can sell a few drugs on the schedule 'K' of the Drugs and Cosmetics act in rural areas in villages whose populations is below 1000. [7]

### OVER THE COUNTER DRUGS - FDA REVIEW

FDA appoints a panel of experts to review the safety and efficacy of all OTC drugs. These OTC panels have been assigned the products on a category basis eg: antacids, analgesics and anesthetics. The requirements of an NDA for prescription and OTC drugs are similar. A drug to be sold as OTC, according to the FDA regulations it must be safe and effective. [8,9]

An OTC drug is safe when it has low incidence of adverse reactions and side effects under conditions of widespread availability. Safety depends on using a drug properly, for eg; most headaches are not dangerous, but in rare cases a headache is an early warning of a brain tumor or hemorrhage. People must use commonsense in determining when a symptom or ailment is minor and when it requires medical attention and consult a doctor if they are unsure. [10]

### MATERIALS AND METHODS

The study was conducted at various parts of Kerala as a survey process. The study was carried out for a period of eight months from August 2009 to March 2010. Study was carried out as a structured interview technique by using questionnaire. Questionnaire was divided into various sections which reveals the self-medication patterns and as well as public's views on OTC medicines in terms of safety, potency and effectiveness etc.

### RESULT AND DISCUSSION

During the entire study period, a total of 252 members of the public participated, 145 of these were male and 107 were female and among them most fall in the age group of 21-30 years and least number of participants were from the age group of 81-90 years.

The study showed that, among the participants 74.20% visited the pharmacy to purchase prescription drugs and 25.79% of participants visited the pharmacy to purchase non-prescription medicines. These findings were similar to the previously conducted studies. [9] (**Figure 1**) The main factor which most frequently influenced the choice of OTC medication was the previous usage (50.39%), followed by recommendation by the pharmacist (23.41%). This is reassuring especially with increasing availability of potent medications without prescription and the increased potential for medication (**Table 1**).

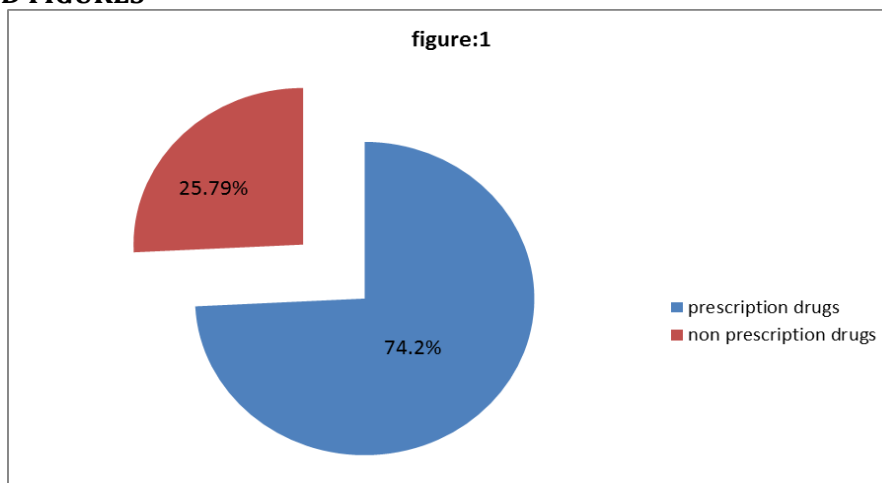
The study revealed that OTC stockage at home was very common. Among these OTC medications, pain killers were high which was accounted by 62.3% followed by cough remedies (59.12%) and fever products (46.82%). These results were similar to the study carried out by *Mayyada waziffy et al.* (**Table 2**) [11-13]

About 77% participants reported that they always or often followed the directions on the OTC drugs package. These findings also analyzed 6.74% and 1.19% participants reported they would rarely or never follow the directions respectively (**Figure 2**)

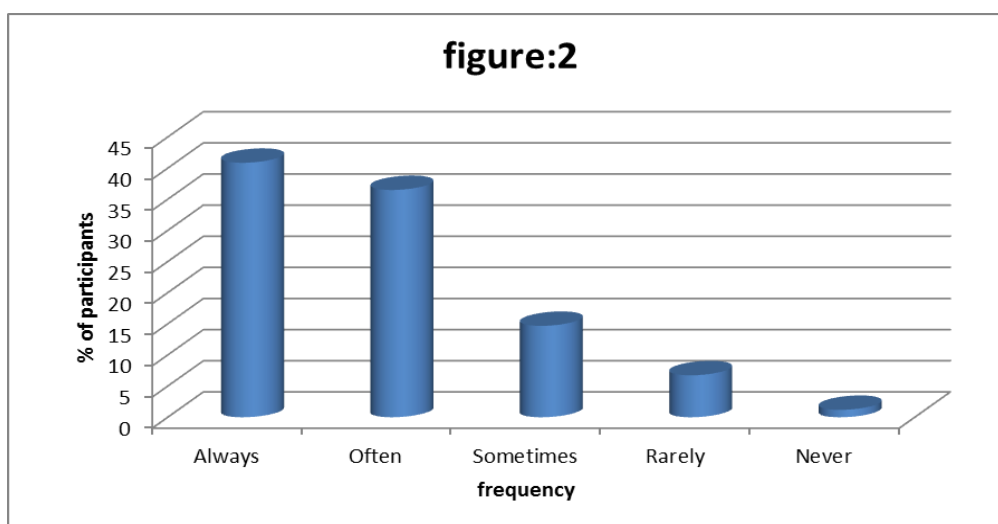
Addiction, overdose, mixing of OTC drug with alcohol etc. are the various types of OTC drug abuse\ misuse. Among this 5.95% of participants reported addiction to OTC drugs followed by 4.76% of participants reported over dose of OTC drugs (**Figure 3**). The study also revealed the participants views on OTC drugs in terms of safety, potency and effectiveness. From these more than 70% of the participants agreed that longer usage may cause dependency or addiction (77.38%), incorrect usage of OTC drugs produce serious health problems as that of prescription medicines (76.19%) and continuous usage may lose the effectiveness of OTC drugs (72.22%). Same time participants disagreed usage of OTC medicines only in the severe disease states (79.36%) followed by more POM drugs should be deregulated to OTC status (59.52%). They are also unsure about the total safety of non-prescription medicines (43.25%) (**Table 3**). These findings revealed that general public had a high level

of awareness about the safety, potency, effectiveness of OTC medications. [9]

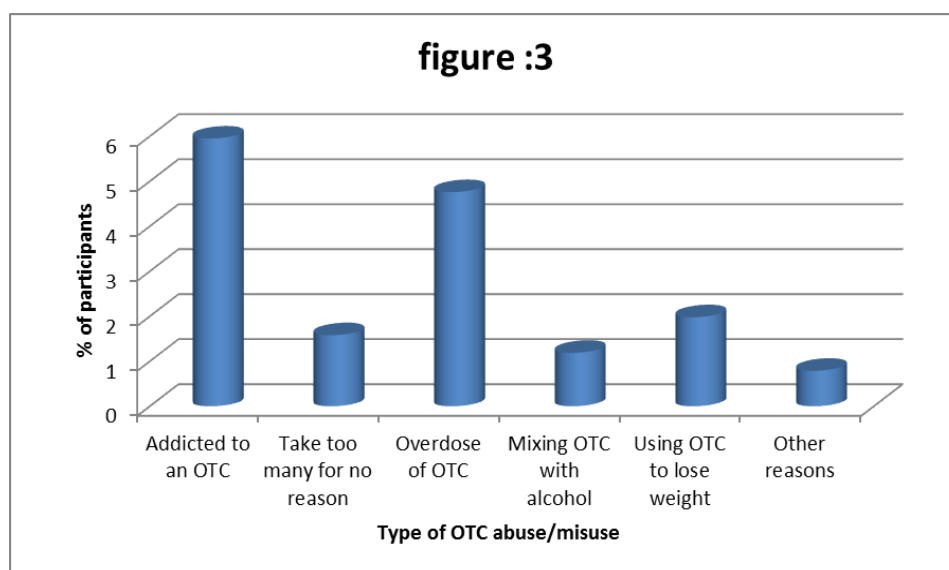
**TABLES AND FIGURES**



**Figure 1: Purpose of Visiting Community Pharmacy**



**Figure 2: Extend Of Following Directions On Otc Drug Package**



**Figure 3: Types of OTC Drug Abuse/Misuse**

**Table 1: Factors Affecting the Choice of OTC Medicines**

Factor	Number of participants (n=252)	Percentage (%)
Doctor	23	9.12
Pharmacist	59	23.41
Friends and family	29	11.507
Previous usage	127	50.39
Advertisement	14	5.55

**Table 2: OTC Stockage at Home**

Pain killers	157	62.30
Vitamins /Minerals	99	39.28
Indigestion /Heart burn	94	37.30
Medicated skin care products	97	38.49
Cough remedies	149	59.12
Sore throat products	89	35.31
Fever products	118	46.82
Laxatives	42	16.66
Medicated foot care products	63	25
Sleep aids	3	1.19
Anti-Diarrhoeal	46	18.25
Medicated ear care products	43	17.06

**Table 3: Participants Views on the Safety, Potency and Effectiveness of OTC Drugs**

Statement	Agree		Unsure		Disagree	
	No. of participants	Percentage	No. of participants	Percentage	No. of participants	Percentage
More than POM drugs should be deregulated to OTC status	68	26.98	34	13.49	150	59.52
Reach for OTC Medicines at first sign of illness	139	55.15	49	19.44	64	25.39
Use OTC medicines only if the illness is quite severe	32	12.69	20	7.93	200	79.36
Non-prescription medicines are totally safe to use	45	17.85	109	43.25	98	38.88
Non-prescription medicines can have dangerous side effects	116	46.03	86	34.12	50	19.84
The effect of in correct use of OTC medicines can be as serious as that of prescription medicines	192	76.19	39	15.47	21	8.83
OTC medicines can sometimes mask serious health problems	145	57.53	79	31.34	28	11.11
Some non-prescription medicines interfere with the natural healing process of the body	159	63.09	72	28.57	21	8.33
With continual use,	182	72.22	45	17.85	25	9.92

some OTC medicines lose their effectiveness						
Some OTC medicines may cause dependency or addiction if taken for a long period of time.	195	77.38	39	15.47	18	7.14

## CONCLUSION

Among the participants about 27.38% of participants were purchasing OTC medication monthly. Majority of the public prefer to take OTC medications only when the condition was not serious enough to visit the doctor. Previous usage of medication was the major factor which influences the choice of OTC medications. Always the participants strictly followed the directions on the OTC packages which will minimize the unwanted effects. Pain killers, cough remedies and fever products were the majority of OTC medications commonly stocked at home and always following the directions on the labels. Majority of the participants stop the drug and consult their physician when the OTC medicine did not work within the recommended period of time and this will reduce further complications. OTC drug abuse/misuse reports were negligible, which listed out the safety awareness of the public. General public had a high level of awareness about safety, potency and effectiveness of OTC medications.

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