

# A STUDY OF AWARENESS, KNOWLEDGE, PERCEPTION AND ATTITUDE TOWARDS THE USE OF OVER THE COUNTER ANALGESICS AMONG THE GENERAL PUBLIC AND THE PHARMACISTS IN URBAN AREAS OF DEHRADUN

Reenoo Jauhari\* and Shatakshi Lall

Department of Pharmaceutical Science, Shri Guru Ram Rai Institute of Technology and science, Patel Nagar, Dehradun.

*The study was carry forward to find the Correlation of OTC analgesics use with respect to age, gender and qualification level, determine the most commonly used OTC analgesics, analyze the most common conditions for which people use OTC analgesics, evaluate the general public's knowledge of the OTC analgesics, analyze the pharmacist perception regarding OTC analgesics and assess knowledge amongst the general public regarding drug-drug and drug-food interactions.*

## ABSTRACT

**Aim:** A study of Awareness, Knowledge, Perception and Attitude towards the use of Over The Counter Analgesics among the general public and the Pharmacists in urban areas of Dehradun.

**Findings:** The study carried on 300 general public shows a positive correlation between the use of OTC Analgesics with respect to age, gender and educational qualification. In the study headache (29%) was found to be the most common reason of OTC Analgesics consumption. In accordance with the data collected Acetaminophen(50%) was the most commonly consumed OTC Analgesic. Maximum individuals (81%) had knowledge about the side effects of the drugs while only 26% encountered them and around 46% could not recall whether they ever experienced any such effects or no.

The data collected from the pharmacists show that maximum pharmacist working in the pharmacy were B.Pharma (52%). All 100% pharmacists had knowledge regarding the side effects of OTC Analgesics but only 75% pharmacists educate the consumers about such effects.

It was found that 80% pharmacists had knowledge about the drug interactions and amongst those 80% only 52% of the pharmacists provide knowledge on such interactions to the consumers.

**Conclusion:** Over the Counter Analgesics is an inseparable part of the human. They have become a daily need of humans. As OTC Analgesics are easily available in nearby pharmacies, the Pharmacists play an important role in promoting OTC Analgesics use.

**Key words:** Over the Counter, Analgesics, Acetaminophen

## INTRODUCTION:

Self-medication as defined by World Health Organization (WHO) is the use of drugs to treat self-diagnosed disorders or symptoms. The quick advancement in technology now-a-days has led to an increase in the practice of self-medication by the general public. These days it has gained an important position in the health care system for individuals. (World Health Organization: Guidelines for the regulatory assessment of Medicinal Products for use in self-medication 2000)

As per WHO guidelines, "responsible self-medication can help prevent and treat diseases that do not require medical consultation and reduce the increasing pressure on medical services for relief of minor ailments especially when resources are limited". (World Health Organization: Report of the WHO Expert Committee on National Drug Policies 1995)

The risks of self-medication that may lead to adverse effects includes incorrect self-diagnosis by the individuals; masking of an underlying serious health condition; rare but severe adverse effects; failure to understand contraindications and potential interactions which includes drug-drug and drug-food interactions; incorrect route of administration or manner of administration of the drug; inappropriate dosage; risk of abuse or dependence; storage of drug in incorrect conditions and wrong choice of drug therapy for a particular condition. (Ruiz et al. 2010)

Medicines for self medication are usually called as 'non-prescription' or 'over the counter' (OTC) drugs which can be easily purchased without a doctor's advice and prescription, from pharmacies and sometimes from non-pharmacy retail outlets. (Azhar et al. 2013)

Before Food, Drug and Cosmetic Act (FD&C Act) came into its play, technically all drugs could be easily marketed without a prescription and without any restrictions. After initiation of the FD&C Act, the U.S Food and Drug Administration (FDA) decided on a step by step basis in which certain drugs were to be dispensed in a restricted way usually considered as prescription only and which was to be sold over the counter. (Harrington et al. 2002)

Presently there is no legal recognition for OTC drug products in India. Drugs that are not included in the stated list of prescription-only drugs are considered to be drugs that are non-prescription or OTC drugs in other words. (Organisation of Pharmaceutical Producers of India [Cited 2011 Sep 20].)

Analgesics are defined as the drugs that relieve pain without blocking nerve impulse conduction or markedly altering sensory function. (Kumarasingam et al. 2014)

Analgesics or pain killers are currently representing the mainstream drugs for pain management, with a wide array of drugs available in the market which includes aspirin, acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs) to name a few. Many studies have found to have reported the associations between use of analgesics and chronic renal failure which is caused by non-steroidal anti-inflammatory drugs (NSAIDs) such as acetaminophen and aspirin. Abuse and misuse of analgesics have long been associated with the development and advancement

of chronic renal failure. Breaking the belief of the patient about the abuse and inappropriate use of OTC analgesics is a very important key factor in controlling the unnecessary use of analgesics.( Vargas-Schaffer G et al. 2010)

A drug interaction is defined as a situation in which a substance is said to have an effect on the activity of a drug, i.e. the effects may be either increased or decreased, or they may produce a all new effect that was neither initially produced on its own. Typically, such interactions between drugs come to mind as drug-drug interaction. However, some interactions may also exist between drugs and certain foods (drug-food interactions), and sometimes may occur between drugs and herbs (drug-herb interactions).( Montvale et al. 2006)

Some common interactions are shown below:

Food and drugs both are taken by the mouth and must be first absorbed through the lining of the stomach or the small intestine. Sometimes the presence of some amount of food in the digestive tract may greatly reduce absorption of a drug. Many times such interactions can be avoided by ingesting the drug around one hour before or about two hours after eating. ( Booth et al. 1997)

The presence of alcohol in the body can also affect various body processes and may interact with many other drugs. Alcohol is such a substance that interacts with almost every medication that we intake, especially antidepressants.( Lieber et al. 1994)

NSAIDs such as ibuprofen, ketoprofen and other such drugs can cause stomach irritation and therefore they should be taken along with food or milk. Avoid the use of alcohol along such drugs because chronic use of alcohol can increase the risk of liver damage or stomach irritation and bleeding.( Stormer et al. 1993)

Aspirin is known to decrease the action of metoprolol by blunting its anti-hypertensive effect. This outcome could probably be due to prostaglandin(PG) inhibition which is known to be resulting in decreased level of renal sodium excretion. Most common drugs pair to cause pharmacodynamic interaction and alteration was identified to be as aspirin with losartan. Aspirin is known to block the production of prostaglandins(PG) which is known to cause vasodilation. Non-steroidal anti-inflammatory drugs (NSAIDs) may also cause fluid retention, which also affects blood pressure.( Katzung et al. 2012)

## MATERIALS AND METHODS:

An observational, descriptive questionnaire based study was conducted in different areas of Dehradun, Uttarakhand among the general public and the pharmacists. The study was designed to be of six months.

The objectives of the study include:

- Correlation of OTC analgesics use with respect to age, gender and qualification level.
- To determine the most commonly used OTC analgesics.
- To analyze the most common conditions for which people use OTC analgesics.
- To evaluate the general public's knowledge of the OTC analgesics.
- To analyze the pharmacist perception regarding OTC analgesics.
- To assess knowledge amongst the general public regarding drug-drug and drug-food interactions.

The data was collected from the general public as well as from qualified pharmacists. The study population was randomly selected. Two questionnaires were constructed one for the general public and one for the pharmacists. The questionnaire constructed for the general public consisted of 19 questions. Questionnaire for the general public includes questions regarding the socio-demographics and assessment of the general public's knowledge regarding the use of Over the Counter Analgesics.

Questionnaire for the Pharmacist includes 14 questions which will help analyze the pharmacists perception regarding Over the Counter Analgesics.

Members of the general public who appeared to be over 18 years of age were randomly approached by the researcher and asked to participate in the survey regardless of ethnics, occupations and social status. In case of pharmacists, only qualified pharmacists were asked to fill in the questionnaire. The raw data that was collected during the course of the study was entered onto Microsoft Excel spreadsheet and then specific coding was done to allow the data to be analyzed by SPSS for Windows, for statistical analysis.

## RESULTS:

General Public:

A significant positive correlation was seen among age, gender and qualification level with the use of OTC Analgesics as shown in Table 1, Table 2 and Table 3 respectively.

Out of 300 individuals, the maximum number of individuals, 87 (29%) reported "headache" as the most common condition for consumption of OTC Analgesics followed by "fever", 50 (17%), "dental pain", 45 (15%), "back pain", 42(14%), " period pain", 37(12%), "cold/flu", 23(8%), "sore throat", 8(3%), and "muscle pull" by 6 individuals (2%) (Figure 1).

The most common analgesic consumed was acetaminophen (50%) followed by ibuprofen (34%) non OTC drugs like diclofenac (9%) and aspirin (7%) (Figure 2).

Out of 300 individuals, 200 (67%) believed that they are no completely safe while 42 (14%) believed them to be safe and 58 (19%) did not know whether they are safe or not. (Figure 3).

The outcomes show that 243(81%) individuals have knowledge of the side effects while 57(19%) individuals have no knowledge. (Figure 4).

It was found that 110 individuals (37%) had knowledge of drug-food interactions while 190 individuals (63%) had no such knowledge. (Figure 5)

The outcomes reveal that 212 (71%) individuals had knowledge of drug-drug interactions while 88 (29%) individuals had no such knowledge.(Figure 6)

Pharmacists:

It was reported that 87 pharmacist were D.Pharma, 47 were B.Pharma and 16 were M.Pharma(Table 4)

Out of 150 pharmacists, 100% pharmacists had knowledge of side effects (Table 5)

Out of 150 pharmacists, 112 had information providing behavior while 38 did not provide information(Table 6)

Out of 150 pharmacists, 120 (80%) had knowledge of drug interactions while 30 (20%) had no knowledge regarding such interactions (Figure 7)

Out of 120 pharmacists who reportedly had knowledge on various drug interactions, 63(52%) pharmacists said that they provide knowledge regarding such interactions to the consumers while 57 (48%) pharmacist did not provide any such knowledge. (Figure 8)

## DISCUSSION AND CONCLUSION:

Over the Counter Analgesics is an inseparable part of the human life owing to the changing life style. They have become a daily need of humans. As OTC Analgesics are easily available in nearby pharmacies, the Pharmacists play an important role in promoting OTC Analgesics use. Pharmacists are the most reliable source to seek information and advice before taking OTC Analgesics. Most people have easy access to pharmacists, and they play a strategic role offering relevant information advice on drug use, especially OTC drugs, and promoting rational drug use.

Self medication with OTC Analgesics is found to be practiced by 100% of our study population therefore there is a need to educate the general public regarding the safe use of such drug products.

## CONFLICT OF INTEREST:

The authors have no conflict of interest.

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Table 1: Correlation of age with Use of OTC Analgesics

Correlations		AGE	USEOFOTC
AGE	Pearson Correlation	1	.297**
	Sig. (2-tailed)		.000
	N	300	300
USEOFOTC	Pearson Correlation	.297**	1
	Sig. (2-tailed)	.000	
	N	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 2: Correlation of age with Use of OTC Analgesics

## Correlations

		GENDER	USEOFOTC
GENDER	Pearson Correlation	1	.083**
	Sig. (2-tailed)		.152
	N	300	300
USEOFOTC	Pearson Correlation	.083**	1
	Sig. (2-tailed)	.152	
	N	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed).

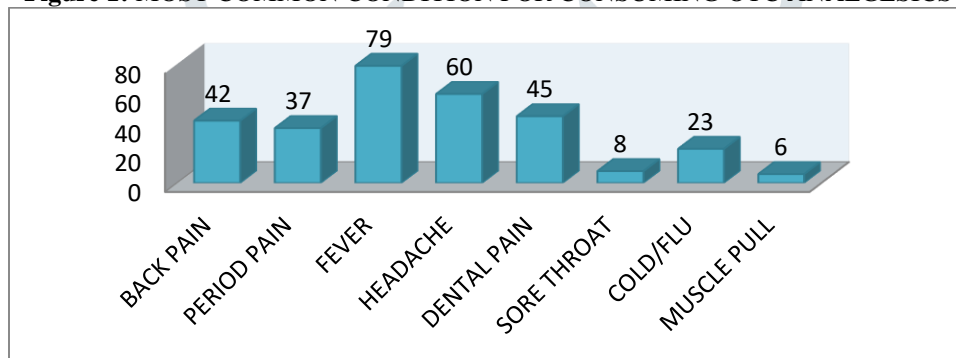
Table 3: Correlation of age with Use of OTC Analgesics

**Correlations**

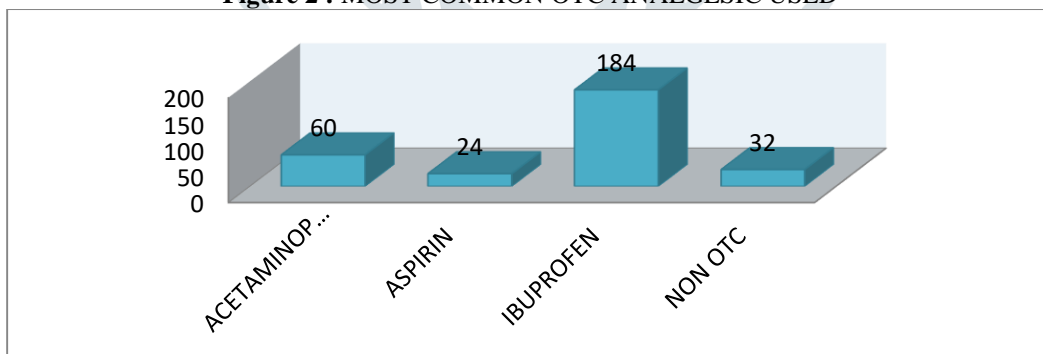
		QUALIFICATIO ON	USEOFOTC
QUALIFICATIO N	Pearson Correlation	1	.284**
	Sig. (2-tailed)		.000
	N	300	300
USEOFOTC	Pearson Correlation	.284**	1
	Sig. (2-tailed)	.000	
	N	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Figure 1: MOST COMMON CONDITION FOR CONSUMING OTC ANALGESICS**



**Figure 2 : MOST COMMON OTC ANALGESIC USED**



**Figure 3: Belief regarding safety of OTC Analgesics**

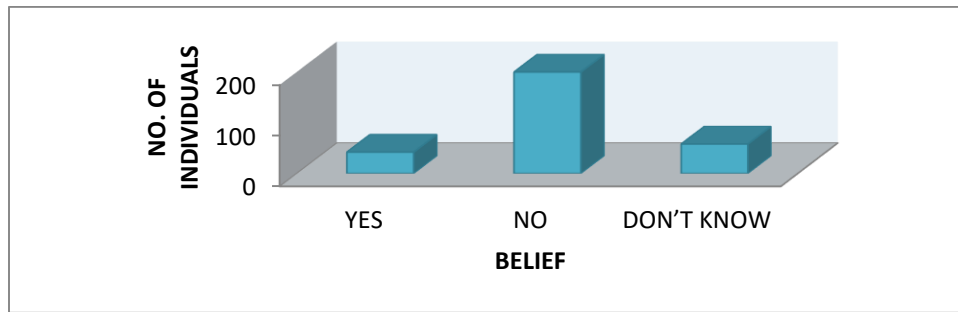


Figure 4: KNOWLEDGE ABOUT THE SIDE EFFECTS

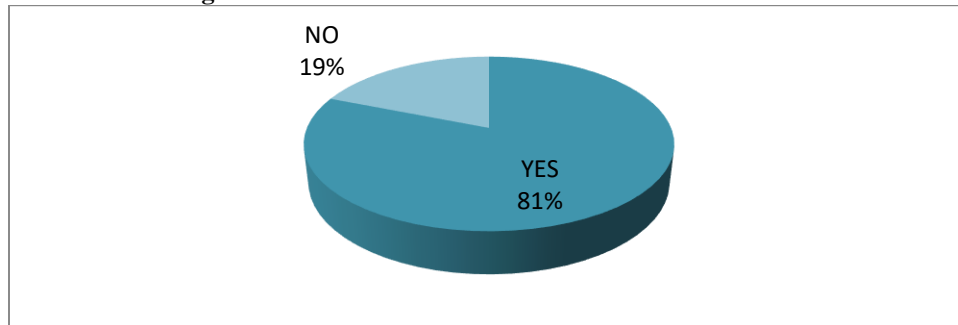


Figure 5: Knowledge Regarding Drug-Food Interactions

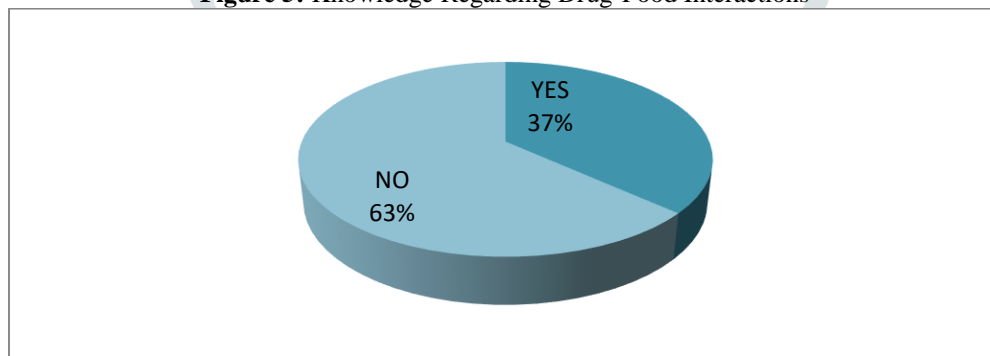


Figure 6: Knowledge of drug-drug interactions

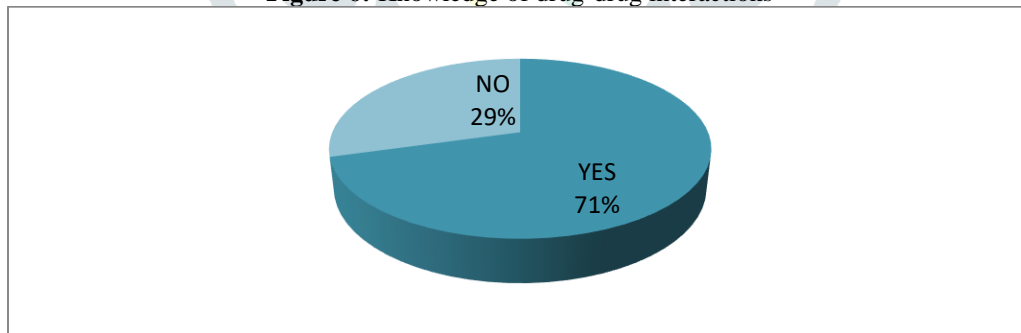


Table 4: Educational qualification of pharmacists

LEVEL OF EDUCATION	NO. OF PHARMACIST	PERCENTAGE (%)
D. PHARMA	87	58%
B. PHARMA	47	31%
M. PHARMA	16	11%
TOTAL NO. OF PHARMACIST	150	100%

Table 5: KNOWLEDGE OF SIDE EFFECTS OF OTC ANALGESICS:

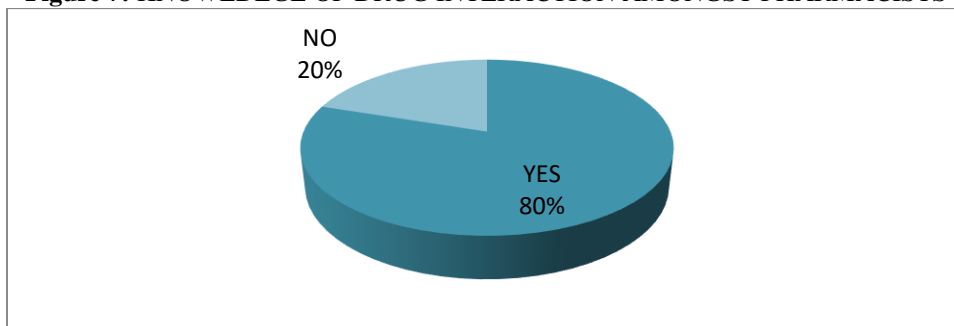
KNOW ABOUT THE SIDE EFFECTS	NO. OF PHARMACISTS	PERCENTAGE(%)
YES	150	100%
NO	00	0%

	150	100%
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**Table 6:** INFORMATION PROVIDING BEHAVIOUR OF PHARMACISTS

DO THE PHARMACIST EDUCATE THE CONSUMER OF SIDE EFFECTS	NO. OF PHARMACISTS	PERCENTAGE (%)
YES	112	75%
NO	38	25%
TOTAL NO. OF PHARMACISTS	150	100%

**Figure 7:** KNOWLEDGE OF DRUG INTERACTION AMONGST PHARMACISTS



**Figure 8:** KNOWLEDGE PROVIDING BEHAVIOUR OF PHARMACIST ON VARIOUS DRUG INTERACTIONS

