

# A Study to Identify the Extent of Use and to Assess the Effectiveness of Pamphlet on Knowledge Regarding Over the Counter Drugs Among the Adult Population of Selected Area of Ambikapur, Chhattisgarh

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**Abstract:** Over-the-counter medicine is also known as OTC or nonprescription medicine. All these terms refer to medicine that you can buy without a prescription. OTC drugs enable people to relieve many annoying symptoms and to cure some diseases simply and without the cost of seeing a doctor. However, safe use of these drugs requires knowledge, common sense, and responsibility. Paragati rathod et al., (2023) in their study found that common ailments for which self-medication was used frequently were fever, body aches, common cold, and cough. Self-medication without medical guidance can lead to inappropriate, incorrect, or undue therapy, missed diagnosis, delays in appropriate treatment, pathogen resistance, and increased morbidity. **Aim:** The present study aims to identify extent of use and to assess knowledge regarding over the counter drugs among adult population. **Setting and Design:** The quantitative research approach with pre-experimental one group pre-test and post-test research design was adopted for the study. The study focused on the adult population from selected area of Ambikapur (C.G.) **Material and methods:** Totally 60 adults between age 25-55 years were enumerated from selected area of Ambikapur (C.G.) after obtaining informed consent. Data was collected using self-structured checklist (forced choice yes and no checklist) to assess extent of use of OTC drug and self-structured questionnaire to assess effectiveness of pamphlet on knowledge regarding OTC drugs. **Result:** As the present study aim was to assess extent of use of OTC drugs so, it was found that majority 37(61.6%) subjects were low consumers, 19(31.6%) subjects were moderate consumers and 4(6.6%) subjects were high consumers of OTC drugs. And also aimed to assess effectiveness of pamphlet in improving the level of knowledge regarding OTC drugs in which pre-test knowledge among 60 subjects, 17(28.3%) subjects have very good knowledge, 35(58.33%) subjects have good knowledge and 8(13.33%) subjects have poor knowledge regarding OTC drugs. However, in post-test, knowledge was increased significantly 32(53.3%) subjects have good knowledge and 28(46.6%) subjects had very good knowledge. And pre-test mean is 9.26, mean percentage is 66.19% while in post-test mean is 10.68, mean percentage is 76.31. The standard deviation of pre-test is 2.21 and post-test is 1.54. It indicates that there is significant gain in knowledge in post-test after

administration of pamphlet since the calculated “t” value is 4.00 is greater than the table value 3.46 at  $p < 0.001$  level of significance. There is significant association between pre-test knowledge regarding OTC drugs among adult population with selected socio-demographic variables using a non-parametric test. The calculated chi square value for gender and age is 9.46 and 16.54 which was higher than table value 5.99 and 9.49.

**Keywords:** over the counter (OTC) drugs, knowledge, pamphlet, effectiveness.

## 1. Introduction

OTC medicines mean medicines that are legally allowed to be sold over the counter without the prescription of a physician. The most important distinction between prescription and OTC medicine is based on the availability of adequate directions for use under which a layman can use the medicine safely and for the purposes for which it is intended. Kiyangi K. S. et al. (1993) describe self-medication is a universal phenomenon and not determined by education, cultural, and social background. Self-medication is associated with risks such as misdiagnosis, wrong dosage, drug interactions, prolonged duration of use, and increased resistance to pathogens.

## 2. Objectives

- 1) To identify the extent of use of over the counter drugs among adult population.
- 2) To assess pre and post test knowledge regarding over the counter drugs among adult population.
- 3) To find effectiveness of pamphlet on knowledge regarding over the counter drugs among adult population.
- 4) To find association between pre test knowledge and selected socio demographic variables.
- 5) To develop pamphlet on over the counter drugs.

### 3. Material and Methods

A quantitative study was conducted using pre-experimental one group pre-test and post-test research design. Sample in the study were adults fulfilling criteria at the selected settings of age 25 to 55 years and those willing to take part in the study. Those excluded from the study were critically ill, mentally ill, and deaf and dumb and physically disable people. Informed consent was taken from the subjects. Data was collected using self-structured checklist (forced choice yes and no checklist) to assess extent of use of OTC drug and self-structured questionnaire to assess effectiveness of pamphlet on knowledge regarding OTC drugs.

A representative sample was selected using convenient sampling from the adult population of Sai Residency, Bhagwaanpur Kurd, Ambikapur (C.G.).

Frequency and percentage analysis was done to describe the demographic characteristics of adult population. The t-test analysis was done to assess the effectiveness of pamphlet on knowledge regarding OTC drug. The chi-square analysis was used to determine association between socio-demographic variable and pre-test knowledge regarding OTC drug.

### 4. Results and Discussion

#### A. Distribution of Subjects According to Socio-Demographic Variables was Analyzed Using Frequency and Percentages

In the present study, socio-demographic data elicited among the study sample, maximum 37 (61.70%) subjects were female and 38 (61.7%) subjects belong to age 25-40 years. Majority 39 (65%) subjects were graduate and 42 (70%) subjects were employed in private sector. Commonly 30(50%) subjects purchase OTC drugs for fever. 33(55%) subjects purchase OTC drugs as they are easily available, 25(41.6%) subjects use OTC drugs based on previous prescription, 41 (68.3%) subjects use OTC drugs sometimes.

The above finding is supported by study done by, Tejasvi P.K and Magendran J. (2020) they conducted a cross sectional study aimed to assess the pattern of over the counter drug usage among the patients attending Saveetha medical college hospital, Chennai, Tamil Nadu, among 100 participants and found that majority of the participants (63%) bought OTC drugs on occasion and the rest (37%) bought them always. Most of them (43%) consumed OTC drugs when the symptoms were minor/manageable, 33% of them whenever they felt sick and 24% when they couldn't go to a doctor. Many (41%) believed they could relieve fever by using OTC drugs, 20% to relieve nausea and 39% to relieve headache. Antipyretics (47%) were the most commonly consumed OTC drug. Most (38%) common reason for choosing OTC drug was to save time.

#### B. Extent of Usage of OTC Drug Among the Adult Population

With regards to overall analysis of extent of use of drugs, majority 37(61.6%) subjects are low consumers, 19(31.6%) subjects are moderate consumers and 4(6.6%) subjects are high consumers of OTC drugs.

In relation to item wise analysis of extent of use of drugs, maximum 41(68.3%) subjects consume OTC drugs whenever

feel very sick, 38(63.3%) subjects consume painkiller without consulting physician (e.g. aspirin, tramadol), 16(26.6%) subjects consume OTC drugs even for minor symptoms, and 8 (13.3%) subjects consume OTC drug based on information from internet, 33(55%) subjects consume antacids without consulting doctor(e.g. omeprazole, pantop.), 16(26.6%) subjects consume OTC drugs along with the drugs prescribed to me for my already existing disease, 15(25%) subjects consume stool softener without prescription from doctor (e.g. dulcolax, sorbitol), 30(50%) subjects consume OTC medications on basis of previous prescriptions, 26(43.3%) subjects consume medicine for fever without consulting physician (e.g. paracetamol, ibuprofen), 3(5%) use OTC drugs even if it changes in color, shape, and or odor.

The above finding is supported by study done by, Manu Gangadhar et al (2016) they found that among 160 students, 118 were female students (73.75%) and 42 were male students (26.25%) and were within the age group of 19 to 21 years. 84.37 % of the participants were aware of OTC drugs and 43.75% of the participants use OTC drugs very rarely and 40.62% of participants once a month. Fever (78.12%) and headache (78.75%) were the most common ailments for using OTC drugs following for cold/cough (76.25%), pain (63.12%) and acidity (51.87%). Commonly used drugs were analgesics (68.75%), antipyretics (65.62%), cough suppressants (51.87%), antacids (44.37%), vitamins (32.5%), anti-allergens (18.75%) and anti-emetic drugs (6.87%). 70.62% of participants think why to seek doctor's advice as it is a minor ailment. 45.62% of participants were confident in self-medication, 43.12% of participants think that they can save time by self-medication.

#### C. Pre-test and Post-Test Knowledge Regarding OTC Drugs Among the Adult Population

With regard to overall knowledge in pre-test, majority 36(60%) subjects have good knowledge, 17(28.3%) subjects have very good knowledge and 7(11.6%) subjects have poor knowledge regarding OTC drugs.

However, in post-test knowledge was increased significantly 32(53.3%), 28(46.6%) respectively.

The above finding is supported by Mrs. Sameeksha (2019) she conducted an experimental study to assess the effectiveness of structured teaching programme (STP) on knowledge regarding actions and adverse effects of commonly used over-the-counter (OTC) medications among students of a selected degree college at dist. hapur. found that in pre-test only 19 samples had good knowledge score, 30 samples had average knowledge score, and only 2 samples had very good knowledge score. In post test and 54 samples had good knowledge score, 6 samples had very good knowledge score. The study concluded that Structured teaching Programme (STP) was effective in improving the knowledge regarding Actions and adverse effects of commonly used over-the-counter (OTC) medications.

With regards to item wise analysis of knowledge score of subjects revealed that, in pre-test knowledge maximum 55(91.6) subjects knew OTC drug full form, 58(96.6%) subjects knew definition of OTC drugs, 32(53.3%) subjects knew guidelines of OTC usage, 18(30%) subjects knew about drug

label and leaflets information, 37(61.6%) subjects knew about OTC drugs careful use among population, 40(66.6) subjects knew OTC drugs consequences, 34(56.6%) subjects knew reason of OTC drug side effects, 54(90%) subjects knew about OTC drug safety, 44 (73.3%) subjects knew about stool softener overdose, 38(63.3%) subjects knew about Paracetamol toxicity, 35 (58.8%) subjects knew about drugs taken without prescription, 51 (85%) subjects knew about children medication safety, 42 (70%) subjects knew about overdose of cough syrup, 18 (30%) subjects knew reaction to drugs suspected side-effect(s) .

However, in post-test knowledge was increased significantly such as 58 (96.6%), 57 (95%), 36 (60%), 29 (48.3%), 49(81.6%), 47 (78.3%), 37 (61.6%), 56 (93.3%), 53(88.3%), 50 (83.3%), 50(83.3%), 53 (88.3%), 50 (83.3%), and 22 (36.6%) respectively.

Hence, it is concluded that subjects had increase knowledge in post-test i.e. after administration of pamphlet. It shows that pamphlet helped subjects to gain knowledge.

**D. Effectiveness of Pamphlet on Knowledge Regarding OTC Drugs Among the Adult Population**

Pre-test mean is 9.26, mean percentage is 66.19% while in post-test mean is 10.68, mean percentage is 76.31. the standard deviation of pre-test is 2.21 and post-test is 1.54. It indicates that there is significant gain in knowledge in post-test after administration of pamphlet since the calculated “t” value is 4.00 is greater than the table value 3.46 at p<0.001 level of significance.

The above findings are supported by study done by, Vijesh patel and Hari Mohan Singh (2023) they conducted true experimental study to assess the knowledge of adults regarding ill effects of self-medication. The mean of knowledge regarding ill effects of self-medication among adults in pretest is 13.23 whereas the mean of posttest, after the planned teaching programme was administered came to be 19.8. The calculated ‘t’ value was 8.09262 and 3.83 for the study conducted. The result strongly suggests that adults were well acquainted with the knowledge regarding ill effects of self-medication after the provision of planned teaching programme.

**E. Association Between Pre-Test Knowledge Regarding OTC Drugs Among the Adult Population with Selected Socio-Demographic Variables**

The calculated chi square value for gender and age is 9.46 and 16.54 which was higher than table value 5.99 and 9.49 Hence, the H2 hypothesis is accepted with regards to gender and age.

The above findings are supported by study done by, Sahbanathul Missiriya Jalal, Suhail Hassan Jalal (2024) a cross-sectional study, and found that the overall mean knowledge score regarding OTC medications was 14.21 (SD = 3.3). About 39 (11.96%) of the participants had adequate knowledge, 184 (56.44%) had moderately adequate knowledge, and 103 (31.6%) had inadequate knowledge about the safety of using OTC medications. The overall mean score of practices was 20.7 ± 4.42. The chi-square test results showed a significant (p < 0.01) association between the level of knowledge and age,

occupation, nationality, and marital status.

However, with regards to value of education, employment status, common illness for which OTC drug taken, reason of purchase of OTC drug, information about OTC drug, frequency of use of OTC drug are 0.03, 4.83, 7.43, 4.23, 2.59, 2.44 respectively which is less than table value 5.99, 12.59, 18.31, 9.49, 12.59, 9.4 found no significant association between pre-test and selected socio-demographic variable among the adult population. Hence H2 hypothesis rejected with regards to other variables such as value of education, employment status, common illness for which OTC drug taken, reason of purchase of OTC drug, information about OTC drug, frequency of use of OTC drug.

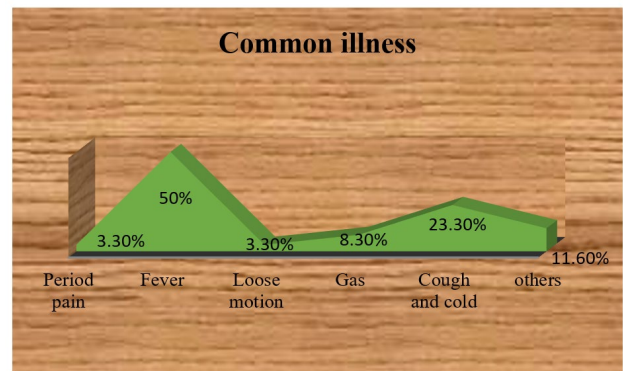


Fig. 1. Distribution of subjects based on illness for which sample buy OTC drugs

Table 1  
Frequency and percentage of overall analysis to assess extent of use of OTC drugs

N=60		
The extent of use OTC drug	Frequency(f)	Percentage%
Low consumers	37	61.6
Moderate consumers	19	31.6
High consumers	4	6.6
Total	60	100

Table 2  
Frequency and percentage of overall analysis to assess pre-test and post test knowledge regarding OTC drugs among the adult population

Category based on knowledge	Pre-Test		Post-Test	
	Frequency	Percentage	Frequency	Percentage
Very good	17	28.3	32	53.3
Good	35	58.33	28	46.6
Poor	8	13.33	0	

**5. Implications**

**A. In Nursing Education**

- Research on OTC drugs can enhance nursing students' understanding of these medications, their uses, and potential interactions
- Research can inform patient education strategies, empowering individuals to make informed decisions about OTC drug use.

Table 3

Chi-square analysis to find out association between pre test knowledge and selected socio demographic variables among the adult population

Sociodemographic Variable	CHI- Square Value	Df	Critical Value	Inference
Gender	9.46	2	5.99	P<0.05 S
Age	16.54	4	9.49	P<0.05 S
Education level	0.03	2	5.99	p>0.05
Employment status	4.83	6	12.59	P>0.05
Common illness for which OTC drug taken	7.43	10	18.31	P>0.05
Reason of Purchase of OTC drug	4.23	4	9.49	P>0.05
Information about OTC	2.59	6	12.59	P>0.05
Frequency of use of OTC	2.44	4	9.49	P>0.05

### B. In Nursing Practice

- Research can inform nurses' decisions regarding medication reconciliation, administration, and monitoring.
- Research can help reduce medication errors by improving nurses understanding of OTC drugs.

### C. In Nursing Research

- Research on OTC drugs can provide valuable insights, informing evidence-based practice guidelines.
- Studies on OTC drugs can pave the way for research on other self-care products.

### D. In Nursing Administration

- Studies can identify areas for cost savings and efficient use of resources related to OTC drugs.
- Studies can identify areas for quality improvement and guide initiatives.

## 6. Recommendations

- 1) The study is conducted using large sample; thereby findings can be generalized to a larger sample.
- 2) Similar study can be replicated in different parts of the state and country to examine variation in contributing factors.
- 3) A study can be done to assess common sign and symptoms of individual OTC drugs.
- 4) A study can be done to assess how individual body organs are affected by use of OTC drugs.

## 7. Conclusion

Result of recent study reveals that after administration of pamphlet knowledge has improved among adult population. Also, despite being aware of the potential risks, many individuals continue to misuse OTC medications, highlighting

a significant gap between knowledge and practice. This paradox raises concerns about the effectiveness of current health education initiatives and the need for more targeted intervention to promote responsible OTC medication use.

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