
**INTERNATIONAL JOURNAL OF BUSINESS, MANAGEMENT
AND ALLIED SCIENCES (IJBMAS)**
A Peer Reviewed International Research Journal

**A STUDY ON AWARENESS OF CUSTOMERS IN SELECTING OVER THE
COUNTER (OTC) DRUGS IN VIJAYAWADA**

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ABSTRACT

Over the counter (OTC) medicines are the drugs that can be sold without the prescription of a registered medical practitioner to the consumer. In India over the counter medicines includes painkillers, nutrients, cough, cold and Ayurveda medicines etc. Unregulated or unrestricted availability of OTC drugs in the market increases the risk of drug resistance adverse drug reaction and drug interactions. OTC medicines are used as self-medication by public for conditions like fever, pain and cold. Awareness regarding OTC drugs will help to lead better medical practices and will prevent unwanted consequences. This paper assesses the knowledge, attitude, practices regarding over the counter medications among the public in Vijayawada. Structured questionnaire was used after obtaining informed consent. Analysis was done using SPSS Version 21. Most of the customers were aware about over the counter medicines but their regulatory knowledge was very low, recent studies show that over the counter drugs are widely used, so there is a need to create awareness and educate customers regarding advantages and disadvantages of self-medication.

Key words: OTC drug, adverse reactions, self-medication

INTRODUCTION

Self-medication is defined as “medicating yourself without the supervision of a health-care professional.” In developing countries, most of the illnesses are treated by self-medication. According to WHO’s definition, self-medication is “the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms”. The World Health Organization reports that rational use of medicines occurs when patients receive adequate medication for their clinical needs, at doses corresponding to individual requirements, and at the lowest possible cost for the patient and the community. Taking this definition into account, an effective drug treatment requires patient compliance and supervision of medical professional together. Irrational drug use and especially self-medication for some ailments is common throughout the world. Self-medication includes the use of

nonprescription drugs and a range of different alternative medicines such as herbal remedies, food supplements, and traditional products home remedies (Eg, salt-water gargles for sore throat or garlic and honey for flu) can either be conceptualized as one form of self-medication or as a part of nonmedical self-care. Self-medication with drugs is an economical choice of treatment for common self-limiting illnesses. Responsible self-medication can help, prevent and treat ailments that do not require medical consultation and minimize the need of medical professional intervention for minor ailments.

These potential benefits seem to be of a particular interest in the financially less privileged countries with limited health resources. Self-care is the care taken by individuals towards their own health and well-being, including the care extended to their family members and others. In practice self-care includes maintaining good physical and mental health. Self-medication is the treatment of common health problems with medicines especially designed and delivered for consumption without medical professional's intervention and accepted as risk-less and effective for such use.

RESEARCH PROBLEM

The reason behind this study is to outline and examine the self-medication motif and OTC practices in Vijayawada to determine the awareness and side effects on use of OTC. How they are getting that medicine, do they say the name of the drug or say the symptoms and get those medicines or by using old prescription. What are the illnesses that prompted frequent self-medications? What are the reasons behind these behaviors and do they know which illness can be cured by self-medication and which requires doctor's prescription, do they know the consequences and side effects of the self-medication and whether they know how much time the drug works. To know the knowledge levels of OTC drugs among different age groups. Do they get any information regarding the side effects from the medical shop retailer? To find whether there is any need to educate public on self-diagnosis. This study was taken to evaluate the attitude and awareness towards over-the-counter (OTC) drugs amongst Vijayawada population.

OBJECTIVES

1. To know the awareness levels of consumers about OTC drugs.
2. To know what kind of information they seek about the OTC drugs
3. To know whether they read instructions on the OTC drugs.
4. To study the influence of demographical factors on awareness of OTC drugs

SCOPE OF THE STUDY

The results obtained would create awareness about the irrational use of OTC drugs among people of Vijayawada. Data will be useful for educating the public through orientation programs to lead better medical practices and prevent any untoward medical occurrences.

NEED OF THE STUDY

To know the awareness levels of the customers and decide whether there is a need to create awareness programs for educating the customers in using the OTC medicines safely.

HYPOTHESIS

1. Null hypothesis: There is no significance relation between the age of the respondent and their awareness levels of OTC drugs.
Alternative hypothesis: There is a significance relation between the age of the respondent and their awareness levels of OTC drugs.
2. Null hypothesis: There is no significant relation between respondent's occupation and their act of reading information printed on the OTC drugs.
Alternative hypothesis: There is a significant relation between respondent's occupation and their act of reading information printed on the OTC drugs

RESEARCH METHODOLOGY

DESCRIPTIVE RESEARCH

Descriptive methods – they describe situations. They don't make accurate predictions, and they don't dictate cause and effect. There are types of descriptive methods namely, observational methods, case-study methods and survey methods.

In this study survey method is used.

VARIABLES: In this study 2 variables are considered they are; awareness of the OTC medicines, reading information given on the OTC medicine package before using.

SAMPLING TECHNIQUE: A purposive-cum-convenient sampling method is used in selecting participants.

It uses the first available primary data source which means you may find the participants anywhere; there is no selection criterion to identify the subjects. All subjects are invited to participate.

SAMPLE SIZE: A purposive cum-convenient sampling method is employed. 152 sample members are chosen on the basis of their being readily available/accessible at Vijayawada

DATA COLLECTION: It is a descriptive research, where the data is collected from both primary and secondary sources ; the primary sources are collection of opinions and behaviors of the population using a structured questionnaire and secondary sources like previous researches in this field, various journals, books and websites.

INSTRUMENTS USED: A structured questionnaire was used to collect the data from the population size to understand their levels of awareness and knowledge of the consumption of OTC medicines.

CONSTRUCTION OF MODEL: For this study Pearson Chi-Square test is used to test the hypotheses and Karl Pearson Coefficient of Correlation is used to find the relation between the selected variables .Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. A positive association shows the degree to which those variables increase or decrease in parallel; a negative association shows the degree to which one variable increases as the other decreases.

When the fluctuation of one variable reliably predicts a similar fluctuation in another variable, there's often a tendency to think that means that the change in one causes the change in the other. However, correlation does not imply causation. For instance, an unknown factor may influence both variables similarly.

STATISTICAL TOOL: Data were coded and entered into SPSS© for statistical analysis.

LIMITATION OF THE STUDY: This study is limited only to the geographical location of Vijayawada, and gives importance to three variables. This research work can be further extended by selecting different variables and in the same geographical location or same variables in different geographical location.

REVIEW OF LITERATURE

Over the counter (OTC) medications: use in general and special populations, therapeutic errors, misuse, storage and disposal by American college of preventive The result for imprecise diagnosis and dosage include increasing resistance to some kind of drugs and additionally downturn in health capital.

From a research in Karachi it was found that prevalence of self-medication practice is remarkably high in the educated community of Karachi and is nearly same among pharmacists and non-pharmacists despite the fact that majority of the people know that it may be risky. This calls for proper awareness training programs nation-wide, restricting unnecessary drugs' advertisements, check and balance on pharmacies regarding OTC pro-ducts and prescription only drugs and ensuring access of common man to essential drugs without burden of heavy doctors' fee. Other studies have shown that branded drugs lead the sales in OTC market; and cost seemed to play a prominent role in consumer purchasing patterns of OTC drugs. Respondents rated that less cost and number of doses in the package was significant factors to influence their purchase decisions of generic OTCs. Factors influencing their decision to purchase brand name drugs included advertisements, duration of the

OTC effectiveness, severity of sickness, preferable form of OTC medication, safety of the OTC, relief of multiple symptoms, and preferred manufacturer.

In recent years there has been an increasing trend in self-medication with non-prescription drugs sometimes referred to as over-the-counter (OTC) medicines available in pharmacies and in retail outlets. Similarly, many products have been deregulated for purchase without a prescription. The deregulation process has been championed by the pharmaceutical industry, the pharmacy profession and government health policy makers and is supported by the view that patients wish to have a greater role in their treatment choices. Self-medication also has advantages for healthcare systems as it facilitates better use of clinical skills of pharmacists, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programs. Nevertheless, growing availability of non-prescription medicines may make patients to believe that there is a drug treatment for all ailments. Furthermore, the use of such products may delay/mask the diagnosis of serious illness, with increased risks of interactions and adverse reactions and of self-treatment being undertaken when medical aid should have been sought. There is a possibility of misusing and abusing such products.

THEORETICAL FRAME WORK

Over-the-counter medications are used to diagnose some common ailments like colds and flu, fever, minor pains, allergies and stomach upset. They are available in many forms: liquids, tablets, ointments, eye drops and sprays, to name a few. A doctor's prescription is not needed to buy OTC medicines. Even so, they are real drugs side effects, drug interactions, and overdoses can occur. Apart from these even herbal or "natural" weight-loss products can often contain this and other ingredients that may be just as dangerous.

In India OTC drugs are not legally recognized, all the drugs that are not comprised in the 'prescription drugs' list are known as non-prescription drugs or OTC drugs. Prescription drugs that fall under two schedules; Schedule H and Schedule X. Drugs falling under Schedule G require the following mandatory text on the label: "Caution: It is dangerous to take this preparation except under medical supervision" and hence are not advertised to the public voluntarily by the industry. In India, the import, manufacture, distribution and sale of drugs and cosmetics are regulated by the Drugs and Cosmetics Act (DCA) and its subordinate legislation, the Drugs and Cosmetics Rules (DCR). This legislation applies to the whole of India and to all sorts of medicines (e.g. allopathic, ayurvedic, homeopathic, etc.) whether imported or made in India.

Legislation is enforced by the Central Government in New Delhi, which is responsible for its overall supervision. The OTC Committee of the Organization of Pharmaceutical Producers of India is working towards the awareness of responsible self-medication with a view to increase the OTC sector. It is aiming to get regulatory support for issues such as the accessibility of household OTC remedies and increasing the awareness of the importance of responsible self-medication with the general public and the Government. The Drug & Magic Remedies Act mentions a list of diseases for which advertising is not permitted. It also prohibits misleading advertisements, which, directly or indirectly, give false impressions regarding the true character of the drug; make false claims, or are otherwise false or misleading in any particular respect. The following OTC medicines advertising can be seen on TV in India Digestives, Antacids, Cold rubs and analgesic balms/creams

- Vitamins/tonics/health supplements (especially Ayurveda-registered)
- Medicated skin treatment, Analgesic, Antiseptic creams/liquids
- Glucose powders, Cough liquids, Band-Aid, Baby gripe water.

The significant part of taking or giving drugs happens before taking or giving that drug: the act of reading and understanding the information on the label. This is a simple way to prevent unpleasant consequences, because OTC medicines are often used without health professional advice.

DATA ANALYSIS AND INTERPRETATION

The following is the analysis of the data by considering the demographics and items of the questionnaire.

Table 1:Age group of the respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	.7	.7	.7
Valid 0-20	17	11.2	11.2	11.8
21-40	130	85.5	85.5	97.4
41-60	4	2.6	2.6	100.0
Total	152	100.0	100.0	

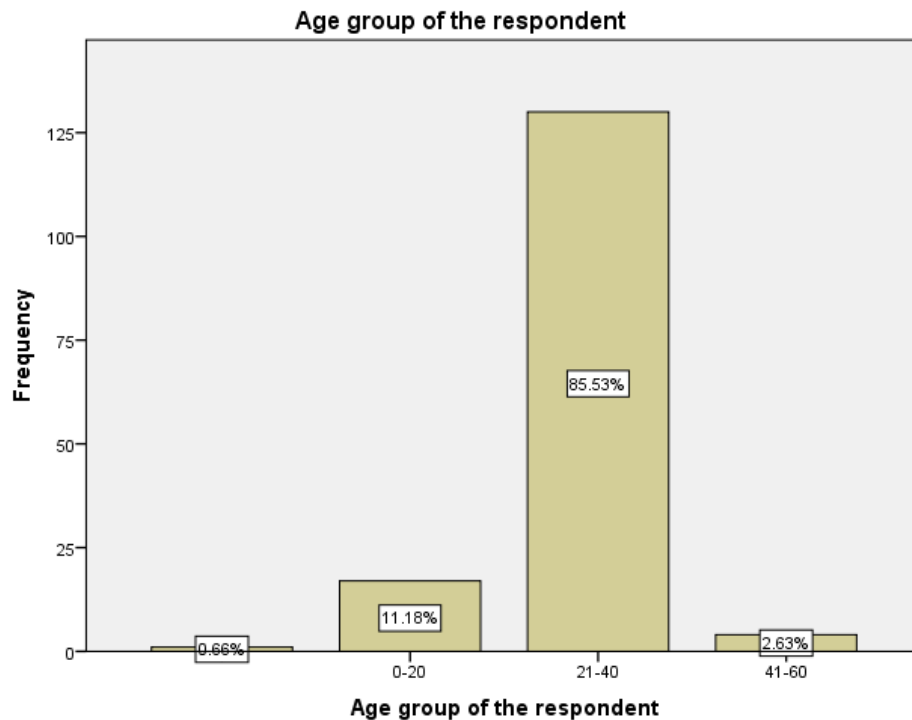


Figure 1

The above diagram shows that out of 151 respondents, majority of respondents 130(85.5%) belongs to age group of 21-40 age, followed by 17(11.2%) are in the age group of 0-20 age group, followed by 4(2.6%) are in the age group of 41-60

Table 2:Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
	1	.7	.7	.7
Valid Business	6	3.9	3.9	4.6
Farmer	3	2.0	2.0	6.6
Govt. employee	1	.7	.7	7.2
Home maker	5	3.3	3.3	10.5
Private employee	28	18.4	18.4	28.9
Student	108	71.1	71.1	100.0
Total	152	100.0	100.0	

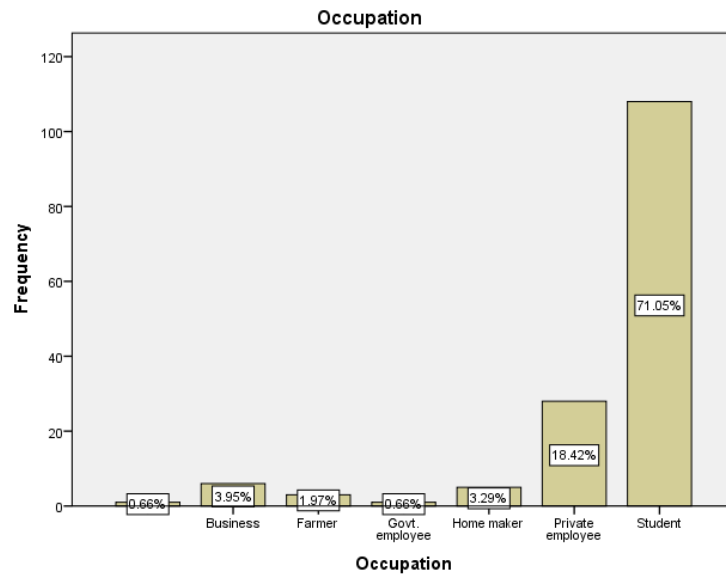


Figure 2

From the above figure we can see 108 respondents belong to student group i.e. 71.1%. 28 respondents belong to private employee group i.e. 18.4%, 6 respondents belong to business group i.e. 3.9%, 5 respondents belong to home maker group i.e. 3.3%, 3 belong to farmer group i.e. 2%, and 1 respondent belong to government employee group i.e. 0.7%.

Table 3: How much you rate yourself on the awareness of OTC medicines?

	Frequency	Percent	Valid Percent	Cumulative Percent
1	33	21.7	22	22
2	83	54.6	55.3	77.3
3	34	22.4	22.7	100
Total	150	98.7	100	
System	2	1.3		
Total	152	100		

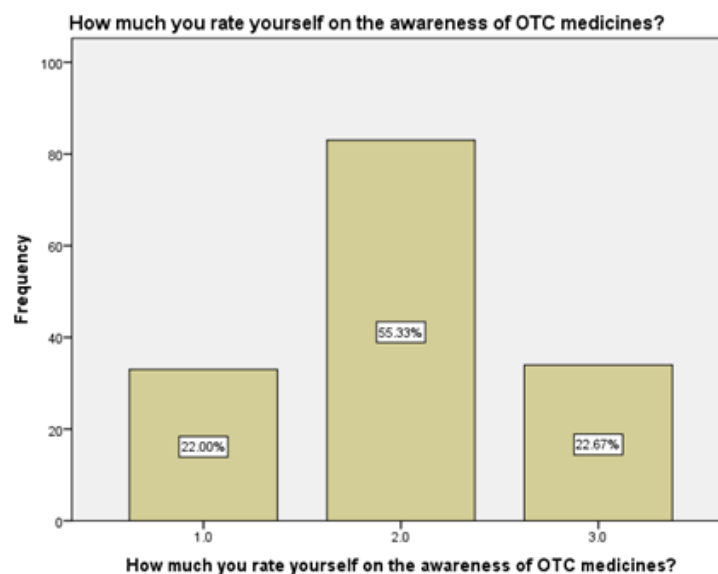


Figure 3

From the above figure we can see 34 rated themselves high on the awareness of OTC medicines 22.67%, 83 rated themselves average on the awareness of OTC medicines 55.33%, 33 rated themselves low on the awareness of OTC medicines i.e. 22.00%

Table 4: Do you read the information on an OTC medicine's package when buying a product for the first time

	Frequency	Percent	Valid Percent	Cumulative Percent
	5	3.3	3.3	3.3
Valid	No	36	23.7	27.0
	Yes	111	73.0	100.0
Total	152	100.0	100.0	

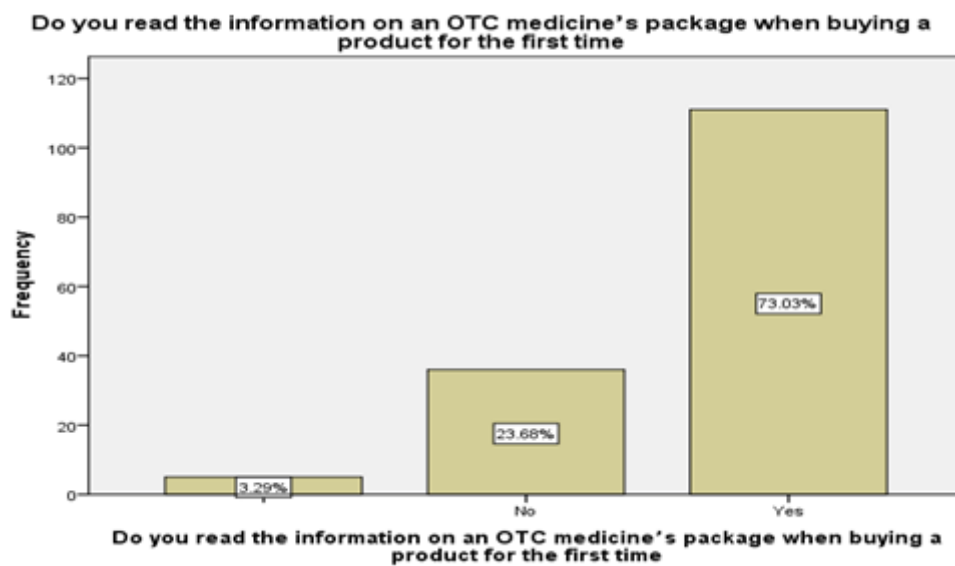


Figure 4

From the above figure we can see 111 respondents will read the information on an OTC medicines package when buying a product for the first time i.e. 73.0%, 36 respondents will not read the information on an OTC medicines package when buying a product for the first time i.e. 23.7%.

Chi square test for testing the hypotheses:

Table 5: How much you rate yourself on the awareness of OTC medicines Cross tabulation

	How much you rate yourself on the awareness of OTC medicines			Total
	Low	Medium	high	
Agegroup				
0-20 yrs	1	0	0	1
21-40 yrs	8	8	1	17
41-60 yrs	25	75	30	130
Total	0	1	3	4
	34	84	34	152

From the table we can see 130 respondents belong to age group of 21-40 years, of which 75 respondents rated their awareness as average, 30 as high awareness and 25 rated their awareness on OTC medicines as 25. And from age group of below 20 years in 17 respondents 8 rated their

awareness as low, 8 rated their awareness as medium and 1 rated high. And 4 belong to age group of 41-60 years in which 3 rated their awareness high and 1 as medium.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.628 ^a	6	.007
Likelihood Ratio	16.092	6	.013
N of Valid Cases	152		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .22.

The Pearson Chi-Square value 0.007 is less than 0.050

Therefore reject Null hypothesis

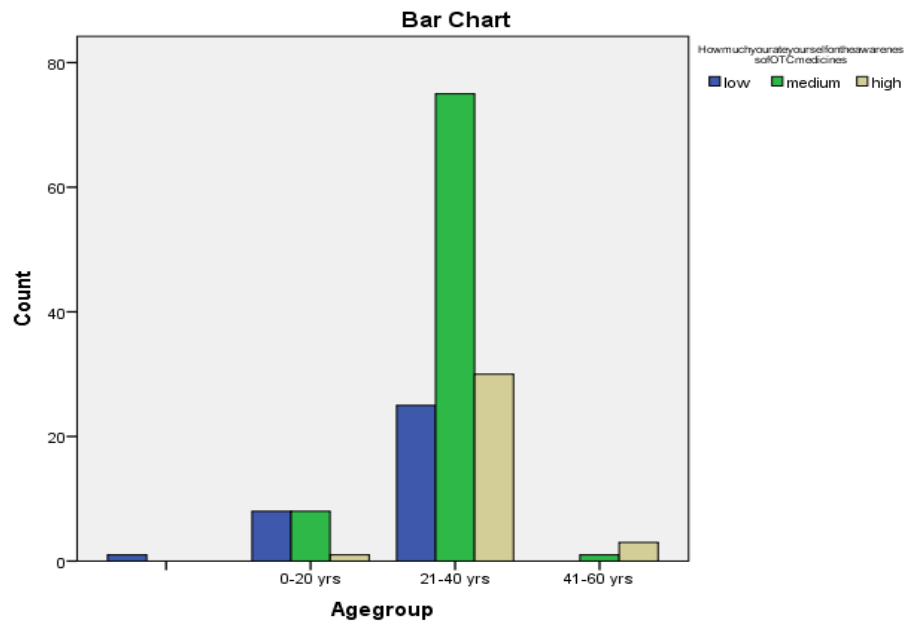


Figure 6

We can see from the graph that the respondents of age group 21-40 years rate themselves as having medium level of awareness on OTC medicines.

Count

	Do you read the information on an OTC medicines package			Total
		Yes	No	
	0	1	0	1
Student	1	83	24	108
Govt. employee	0	1	0	1
Private employee	0	19	9	28
Farmer	0	0	3	3
Business	0	4	2	6
Home maker	0	4	1	5
Total	1	112	39	152

From the table we can see out of 152, the respondents who read information on the OTC medicines package are 112 and who don't read the information are 39. And there are more individuals (83) who

read information on the OTC medicine package. From the private employees group of 28, 19 read information on the package and 9 don't read. All 3 from farmer group don't read information on the package. From business group of 5 respondents 4 read information on the package and 1 don't read. From the home maker group of 5, the respondents who read information on package are 4 and who don't are 1.

	Value	Df	A symp. Sig. (2-sided)
Pearson Chi-Square	11.280 ^a	12	.505
Likelihood Ratio	11.485	12	.488
N of Valid Cases	152		

a. 17 cells (81.0%) have expected count less than 5. The minimum expected count is .01.

From the above table the Pearson Chi-Square value 0.505 is more than 0.0 Therefore accept Null Hypothesis.

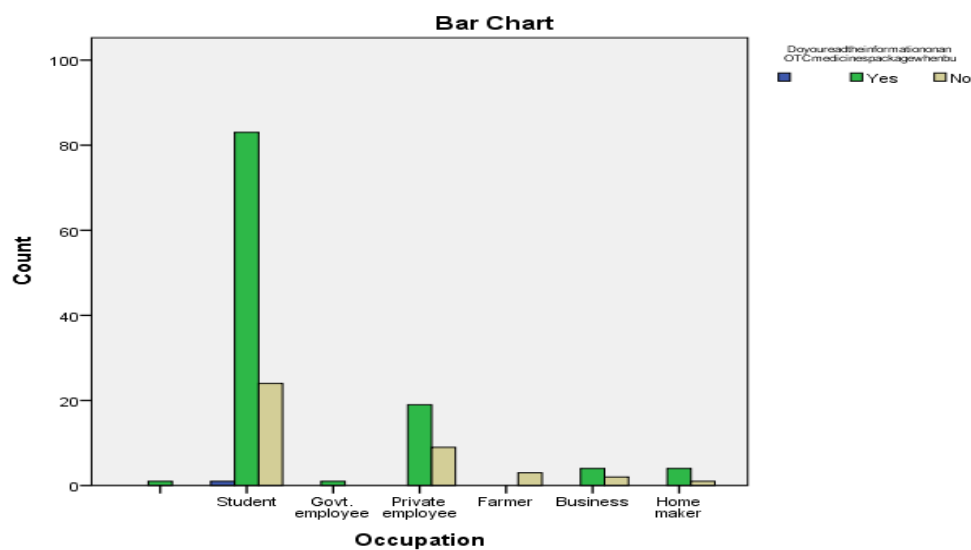


Figure.6

From the graph we can see that the respondents in students group read information on the package than any other group's respondents.

FINDINGS

- 22.67% rated themselves high on the awareness of OTC medicines, 55.33% rated themselves average on the awareness of OTC medicines and 22.00% rated themselves low on the awareness of OTC medicines.
- 31.6% respondents think it is safe to buy and use OTC drugs, 16.4% respondents think that it is not safe to buy and use OTC drugs, 49.3% are not sure about it.
- 44.08%, respondents said they don't maintain stock of OTC drugs. 36.84%, responded as they will maintain stock of OTC drugs at home. 16.24% responded as they may maintain stock of OTC drugs at home.
- 46.05% respondents haven't used any OTC medicines in the past 30 days. 23.03% respondents have used one variety of OTC medicine. 16.4%, have used two varieties of OTC medicines in the past 30 days i.e. 11.2% have used more than two varieties of any OTC medicines in the past 30 days.
- 53.3% respondents will not suggest OTC drugs to treat illness in children, 32.2% respondents said they may suggest OTC drugs to treat illness in children. 12.50% respondents said they will suggest OTC drugs to treat illness in children.

6. 56.6% respondents will suggest others to use OTC drugs. And the remaining respondents will not suggest others to use OTC drugs.
7. 60.53% belong to urban group followed by rural group 23.03%, and semi urban group 15.13%.
8. 61.18% think that self-medication practices are prevailing in society. 8.55% think that self-medication practices are not prevailing in society and 28.29% think that self-medication practices may be prevailing in society.
9. 63.82% said that they take information about the OTC drugs from the shopkeeper. 32.89% said that they do not take information about the OTC drugs from the shopkeeper.
10. 67.8%, respondents belong to P.G group followed by U.G group i.e. 26.3%, S.S.C group 2.6% and Intermediate group 2%.
11. 71.1% belong to student group followed by private employee group 18.4%, business group 3.9%, home maker group 3.3%, farmer group 2%, and government employee group 0.7%.
12. 71.1% respondents belong to student group followed by private employee group 18.4%, business group 3.9%, home maker group 3.3%, farmer group i.e. 2%, and government employee group 0.7%.
13. 73.0% respondents will read the information on an OTC medicines package when buying a product for the first time. 23.7% respondents will not read the information on an OTC medicines package when buying a product for the first time.
14. 75.67% respondents say that will not take OTC drugs from an outlet where there is no qualified pharmacist, 20.4% respondents said that they take OTC drugs from an outlet even though there is no qualified pharmacist
15. 85.5% belong to Hinduism followed by Islamism 5.9%, Christianity 5.3%, and remaining belongs to other religions.
16. 85.5% respondents belong to age group 21-40 i.e. followed by age group of below 20 years i.e. 11.2% and age group of 41-60 i.e. 2.6%.
17. In this survey 61.18% percentages are males and 38.82% are females

SUGGESTIONS

1. Majority of the respondents stated that their level of knowledge regarding self-medication was moderate to high but almost half of the population 49% of the population is not aware of the side effects caused by the OTC medicines. So there is a need to create awareness of OTC medicines and their side effects the public on the OTC medicines.
2. The respondents are cautious to not purchase medicines from a medical outlet where there is no qualified pharmacist, in our study 75.5% of population stated they won't purchase in an outlet if there is a non-qualified pharmacist. The remaining respondents said that they purchase OTC medicines from the outlet even if the pharmacist is not qualified, so it is a signal that there is a need of awareness on OTC medicines among the public.
3. The respondents are generally curious as 63.82% of them seek information from the pharmacist while purchasing OTC medicines but the remaining population don't seek any information it means they just use it by their previous experience or well-wishers advice, there has to be a change in this kind of behavior.
4. Most of the respondents are not clear, whether OTC medicines are safe to buy and use, and the people who said that they are safe to buy and use are more than the people who said it's not safe to buy and use. So they have to improve their knowledge on the safety aspects of the OTC medicines.
5. Most of the respondents i.e. 77.63% have never experienced a negative reaction after using OTC medicines and remaining have experienced negative reactions, this says that there is a need to take precautions before using OTC medicines to avoid negative reactions caused by using.
6. 75% of the population seeks information on dosage of OTC drugs by checking the package, previous experience, and internet or by guessing by themselves, this is dangerous as high dosage

can have negative consequences the better option is following doctors or pharmacist's advice which is done by only 25% of the population.

7. 53.3% respondents are aware to not use OTC drugs to treat illness in children, but the remaining 32.2% respondents think they can be may be suggested and 12.50% are willing suggest OTC medicines to treat illness in children, so there is a need to educate the public to not use OTC medicines for children.

CONCLUSION

Our study shows that majority of the population are using OTC medicines and significant number of population are not aware of the side effects caused by OTC medicines. Most of them seek information regarding dosage based on previous experience, and internet, by checking the package or guessing by themselves which is a risky behavior. Public have to be cautious while using OTC medicines it is better if they seek information from doctor rather than well-wishers, if they are using OTC medicines at least they should be aware of the drug interactions and side effects caused by them. There is also a need to educate them on the usage of OTC medicines for children. The physician should be very prudent in prescribing, and must insist that drugs should be supplied by the chemist only by providing a valid prescription. An acceptable statutory drug control must be executed, rationally regulating the accessibility of drugs to the public. There is also need to create awareness and educate the public regarding advantages and disadvantages of OTC medicines by the government. These, measures would definitely reduce the incidence of drug-related mishaps and help in maintaining good health of the individual and society.

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