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A Comparative Study on Awareness of Usage of Over the Counter Drugs among III and V Semester Medical Students in a Tertiary Care Teaching Hospital

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Abstract: ***Background:*** *Over The Counter (OTC)drugs usage has been increasing now a days.*
Aim: *The aim of the study is to know about the awareness and knowledge of OTC drugs and its usage by medical students.*
Materials and Methods: *The study is conducted in III Semester and V Semester medical students. A Common questionnaire consisting of 20 questions is given and they are asked to answer them in yes or no option. The results are analyzed and tabulated using descriptive statistics.*
Results: *From this study it is noticed that greater percentage of V semester students had awareness about OTC drugs when compared to III Semester students. The knowledge regarding the dose, adverse drug effects, and precautions is also greater in V Semester students than III Semester students.*
Conclusion: *From this study it can be concluded that the awareness and knowledge on OTC drugs is more for V Semester medical students than the III Semester students .*
It is also evident that there is no gender difference in awareness, and in regarding knowledge of OTC drugs. And in its usage also there is no gender difference in both III Semester and V Semester students. It is also noticed that the usage of OTC drugs for pain, fever, cold, gastrointestinal disorders (git) is more in V Semester when compared to III Semester students and when it came to the usage of anxiolytics it is more in III semester students which showed that the students are not under much stress at the end of V Semester.
Keywords: *Awareness, Gender difference, Knowledge, Medical students, Over the counter drugs.*

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I. Introduction

Now-a-days in this competitive world the usage of Over The Counter(OTC) drugs has been increasing very rapidly that too among medical students inorder to save time in their busy and tight academic schedules. Generally speaking, self-medication is defined as "the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms"[(1,2)].The most widely self-medicated substances are over-the-counter drugs and dietary supplements. Self-medication is often seen as gaining personal independence from established medicine,[(3)] and it can be seen as a human right, implicit in, or closely related to the right to refuse professional medical treatment.[(4)] Self-reported OTC medicines are analgesics, laxatives, antithrombotic agents, antacids, cough and cold preparations, antihistamines, dermatological, throat preparations, nasal preparations and antidiarrheal drugs. Over the counter drugs are medicines sold directly to a consumer without a prescription from a healthcare professional, as compared to prescription drugs, which may be sold only to consumers possessing a valid prescription[(5)].In many countries a number of OTC drugs are available in establishments without a pharmacy, such as general stores and super markets. As a general rule, over the counter drugs have to be used primarily to treat a condition that does not require the direct supervision of a doctor and must be proven to be safe and well tolerated.OTC drugs also have little or no abuse potential. It is somewhat unusual for an OTC drug to be withdrawn from the market as a result of safety concerns, rather than market forces, though it does happen occasionally. Dispensing of medication is often regulated by governments into three categories over-the-counter (OTC) medications, which are available in pharmacies and supermarkets without special restrictions; behind-the-counter (BTC), which are dispensed by a pharmacist without needing a doctor's prescription, and prescription only medicines (POM), which must be prescribed by a licensed medical professional, usually a physician.[(6)] OTC drugs are usually

regulated by active pharmaceutical ingredients (APIs),not final products. By regulating APIs instead of specific drug formulations, governments allow manufacturers freedom to formulate ingredients, or combinations of ingredients, into proprietary mixtures.[7]When practiced correctly self-medication(over the counter drugs) can save the time spend in waiting to see a doctor. The WHO has also pointed out that responsible taking of over the counter drugs can help prevent and treat ailments that do not require medical consultation and provides a cheaper alternative for treating common illnesses. The range of medicines available without a prescription varies from country to country. Medications are typically produced by pharmaceutical companies and are often patented to give the developer exclusive rights to produce them. Those that are not patented (or with expired patents) are called generic drugs since they can be produced by other companies without restrictions or licenses from the patent holder.[8]

II. Materials And Methods

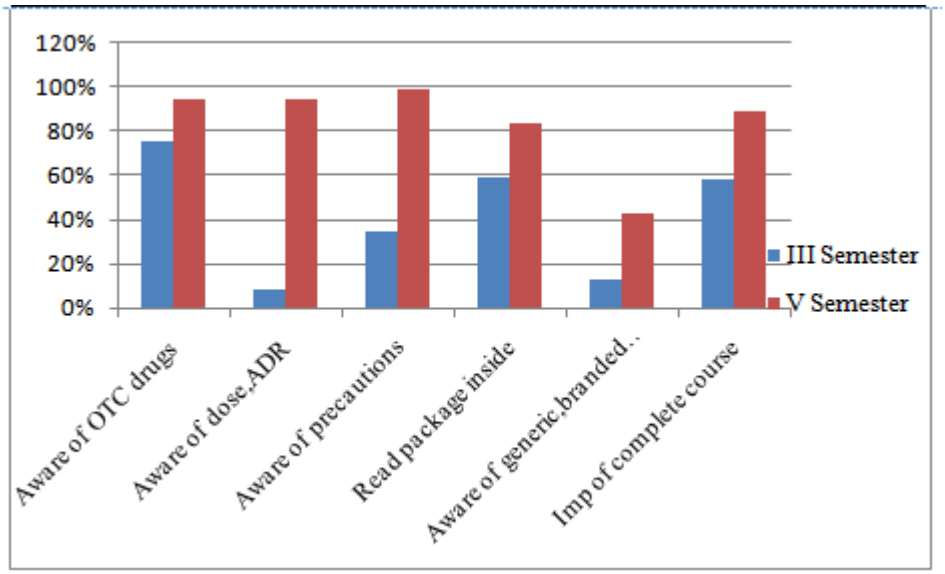
This is a survey based study conducted by the department of pharmacology, Sri Venkateswara Medical College, Tirupati, India. The study consisted of self-developed, prevalidated questionnaire consisting of both open-ended and close-ended items. The study is carried out in third and fifth semester medical students who are divided into Group 1 - 3rd semester , Group 2- 5th semester .Group 1 of 3rd semester are subdivided based on their gender into 1a (females n=70)and 1b (male n=30) and Group 2 of 5th semester into 2a(females n=70) and 2b(male=30)respectively .The students are explained about the aim and purpose of the study and informed consent is taken. The study questionnaire is first pre tested in 5 respondents and suitable modifications are made. The final version of questionnaire is distributed to the two study groups. The questionnaire includes information regarding age, gender, advantages and disadvantages of OTC drugs. Statistical analysis of third and fifth semester students is done by Chi square test using Graph Pad prism version 5.0 and p value less than 0.05 is considered statistically significant.

III. Results

70 female students from group 1a and group 2a and 30 male students from group 2a and 2b completed the questionnaire. Results were analyzed using descriptive statistics.

Table 1 Showing Awareness on OTC drugs among III and V Semester medical students

	III Semester		V Semester	
	Male	Female	Male	Female
1. Are you aware of OTC drugs	60%	81%	97%	94%
2. Are you aware of dose, ADR of OTC drugs	7%	9%	98%	96%
3. Are you aware of precautions while using OTC drugs.	33%	36%	1%	99%
4.Do you read package inside.	57%	60%	87%	83%
5. Are you aware of generic and branded drugs.	27%	7%	40%	44%
6. Are you aware about importance of completing course of OTC drugs.	57%	59%	90%	89%



Graph 1- Awareness on OTC drugs among III and V Semester students

Table 2-Gender difference on Awareness on OTC drugs among III and V Semester students

	III Semester		V Semester	
	Male	Female	Male	Female
1. Are you aware of OTC drugs	60%	81%	97%	94%
2. Are you aware of dose, ADR of OTC drugs	7%	9%	98%	96%
3. Are you aware of precautions while using OTC drugs.	33%	36%	1%	99%
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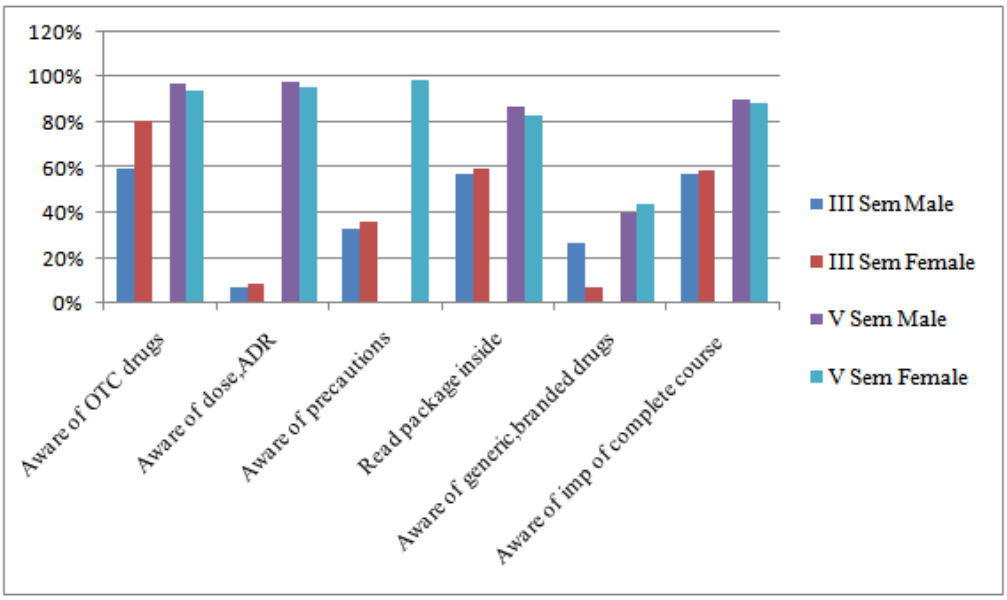
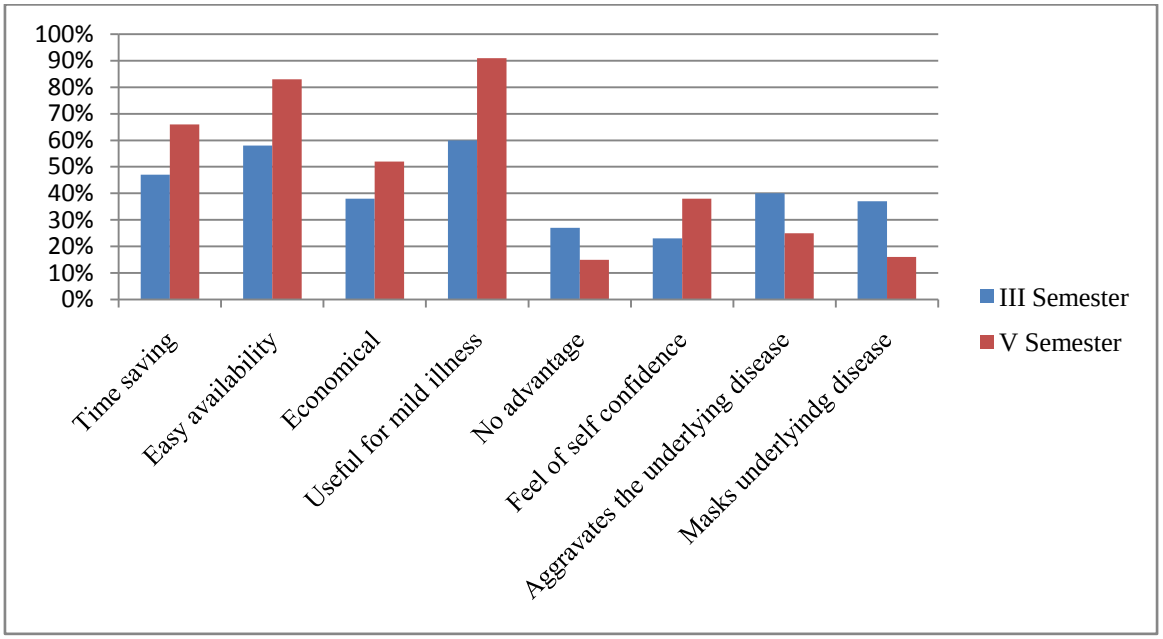


Graph 2-Gender difference of Awareness on OTC drugs in III and V Semester students

	IIISemester	**V Semester**
Time saving	47%	66%
Easy availability	58%	83%
Economical	38%	52%
Useful for mild illness	60%	91%
No advantages	27%	15%
Feel of self confidence	23%	38%
Aggravates the underlying disease	40%	25%
Masks the underlying disease	37%	16%

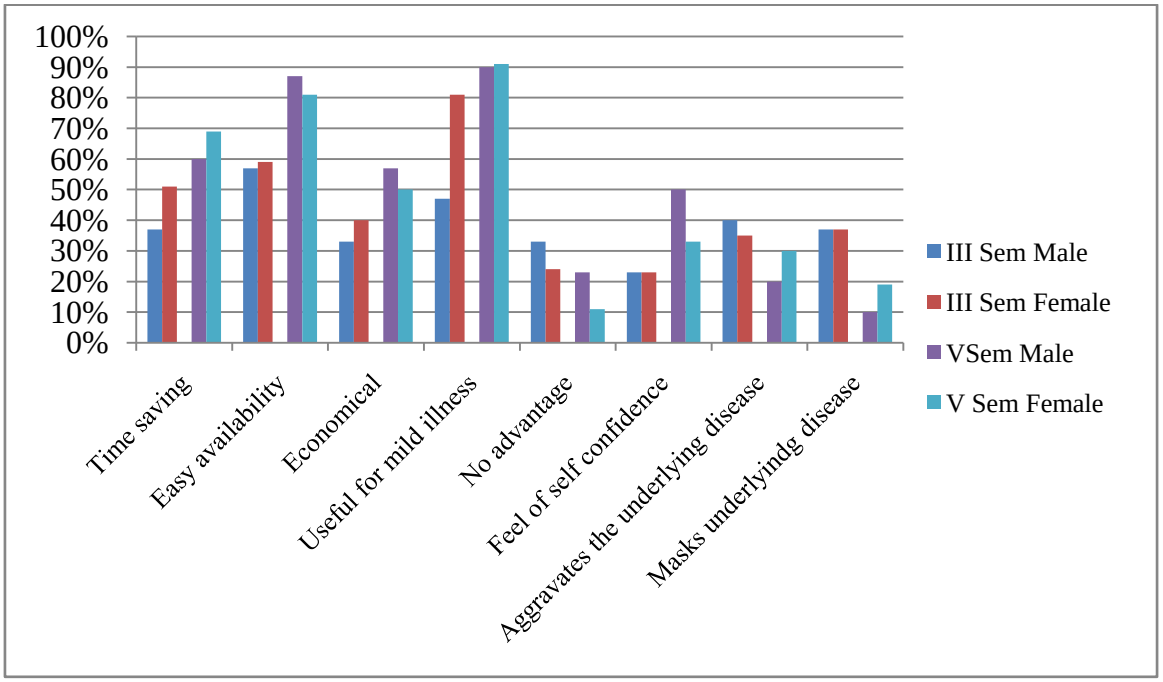
Table 3 -Showing Knowledge on OTC drugs in III and V Semester medical students



Graph 6 - Showing Gender difference of OTC drugs Commonly used among III and V Semester student

Table 4 - Showing Gender difference regarding Knowledge on Over The Counter drugs in III and V Semester students.

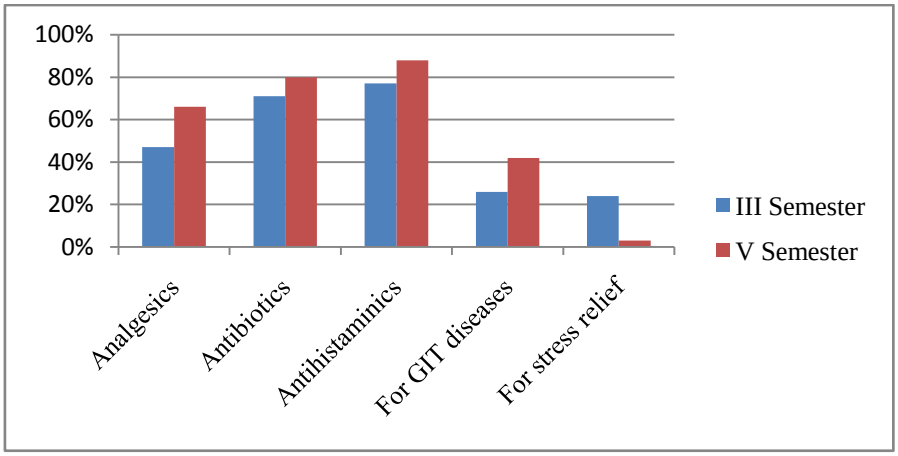
	III Semester		V Semester	
	Male	**Female**	**Male**	**Female**
Time saving	37%	51%	60%	69%
Easy availability	57%	59%	87%	81%
Economical	33%	40%	57%	50%
Useful for mild illness	47%	81%	90%	91%
No advantages	33%	24%	23%	11%
Feel of self confidence	23%	23%	50%	33%
Aggravates the underlying disease	40%	35%	20%	30%
Masks the underlying disease	37%	37%	10%	19%



Graph 4 Showing Gender difference regarding Knowledge on Over The Counter drugs in III and V Semester students

Table 5 -Showing OTC drugs Commonly used in III and V Semester students

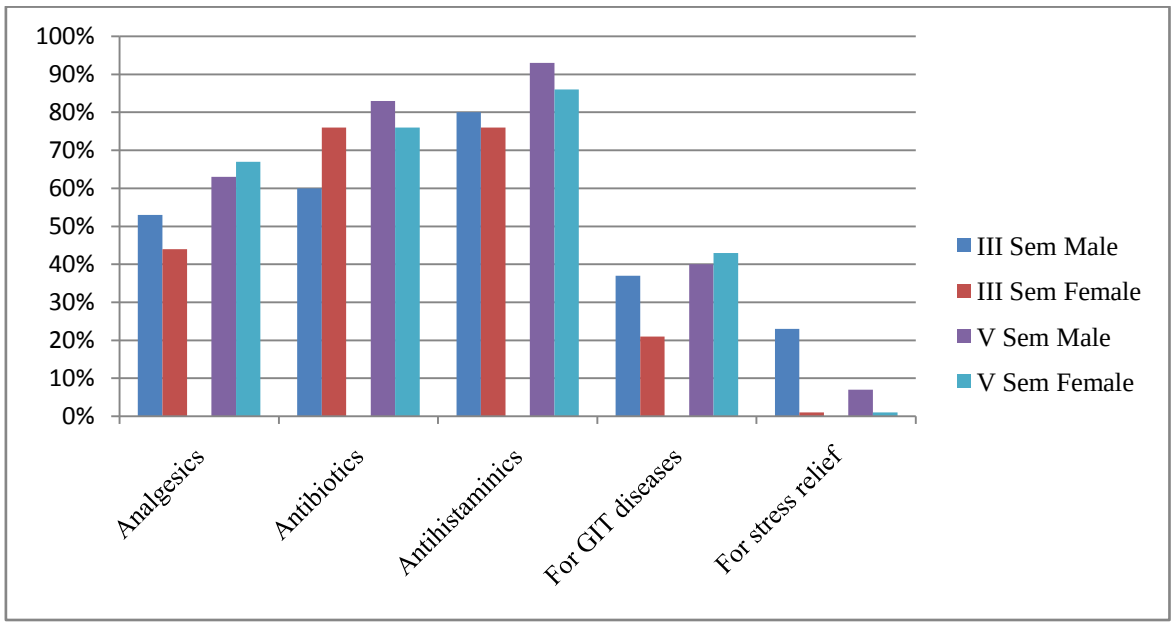
	III Semester	**V Semester**
1.Analgesics	47%	66%
2.Antibiotics	71%	80%
3.Anti histaminics	77%	88%
4.For GIT diseases	26%	42%
5.For stress relief	24%	3%



Graph 5- Showing OTC drugs Commonly used in III and V Semester students.

Table 6 showing Gender difference of OTC drugs commonly used in III and V Semester students

	III Semester Male	**III Semester Female**	**V Semester Male**	**V Semester Female**
1.Analgesics	53%	44%	63%	67%
2.Antibiotics	60%	76%	83%	76%
3.Anti histaminics	80%	76%	93%	86%
4.For GIT diseases	37%	21%	40%	43%
5.For stress relief	23%	1%	7%	1%



Graph 6 - Showing Gender difference of OTC drugs Commonly used among III and V Semester student

IV. Discussion

According to a consumer interview study carried out in six Latin American countries, only 34% of dispensed medicines were classified as OTC [9] Reports have been received of OTC medicines being misused by drug addicts [10] and, according to a recent study in Northern Ireland, pharmacists admit that OTC drugs may be used in this way. [11] The use of OTC analgesics is widespread and the potential impact of these drugs on the development of chronic renal failure may be significant [12] The most widely self-medicated substances are over-the-counter drugs and dietary supplements. In a survey of West Bengal, India undergraduate medical school students, 57% reported self-medicating. The type of drugs most frequently used for self-medication were antibiotics (31%), analgesics (23%), antipyretics (18%), antiulcer agents (9%), cough suppressants (8%), multivitamins (6%), and antihelminthics (4%).[13]Another study indicated that 53% of physicians in Karnataka, India reported self-administration of antibiotics. [14]

From Table 1 and Graph 1 it is shown that 75% of III Semester and 95% of V Semester students agreed that they are aware of OTC drugs and 8% of III and 95% of V Semester students are aware of dose, adverse drug reactions and 35% of III and 99% of V Semester students are aware of precautions of taking OTC drugs. 59% of III Semester and 84% of V semester read package inside and only 13% of III Semester and 43% 0f V Semester students know about generic and branded drugs. In III Semester only 58% and in V Semester 89% of students know the importance of complete course of OTC drugs. It can be concluded that the awareness on OTC drugs is more for V Semester medical students than the III Semester students as they have knowledge on drugs at the end of V Semester. From Table 2 and Graph 2 it is noticed that there is no gender difference in awareness on OTC drugs among III and V Semester medical students.

From Table 3 and Graph 3 it is noticed that regarding knowledge on OTC drugs, 47% of III and 66% of V Semester students opined that OTC drugs are time saving, 58% of III Semester and 83% of V Semester students opined that OTC drugs are easily available, 38% of III Semester and 52% of V Semester students opined that OTC drugs are economical,60% of III Semester and 91% of V Semester students opined that they are useful for mild illness. 27% of III and 15% of V semester students opined that there are no advantages with OTC drugs. 23% of III Semester and 38% of V Semester students felt that OTC drugs created self confidence in them. 40% of III Semester and 25% of V Semester students opined that the OTC drugs aggravates the underlying disease and 37% of III Semester and 16% of V Semester students are of the opinion that OTC drugs would mask the underlying disease.

From Table 4 Graph 4 it is clearly shown that there is no gender difference in the knowledge regarding OTC drugs.

From Table 5 and Graph 5 it is noticed that 47% of III Semester and 66% of V Semester students are using analgesics, 71% of III and 80% of V Semester students are taking antibiotics, 77% of III Semester and 88% of V Semester are using antihistaminics, 26% of III and 42% of V Semester students are taking drugs for GIT disorders and for stress relief 24% of III and 3% of V Semester students are taking anxiolytics.

V. Conclusion

It can be concluded that awareness, knowledge on OTC drugs is more for V Semester students when compared to III Semester students and also the percent of students using OTC drugs for pain, fever, cold, gastrointestinal disorders is more in V Semester when compared to III Semester students and when it came to stress component it is reversed, more of III Semester are taking anxiolytics when compared to V Semester students which showed that the students are not under much stress at the end of V Semester. It is also evident that there is no gender difference regarding awareness, knowledge and usage of OTC drugs both in III and V Semester students.

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