

A Survey Study on Use of Over the Counter (OTC) Drugs among Medical Students in a Tertiary Care Centre: A Cross Sectional Questionnaire Based Study

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Conflict of interest: Nil

Abstract:

Background: Over The Counter (OTC) drugs are drugs which can be sold in the pharmacy without the prescription. Despite all their benefits, improper use of medicines can bring potential health hazards. However, some OTC medicines may be abused, with addiction and harms being increasingly recognized and found to be more common in undergraduate medical students.

Aim and Objective: To analyze the use of OTC drugs among 2nd year medical students to intern doctor at Government Medical College, Datia (M.P.)

Materials and Methods: A prospective, cross-sectional study was conducted among 2nd year medical students to intern doctors of GMC, Datia, (M.P.). Questionnaires, consisting of 30 questions related to OTC drugs, it's about their knowledge, attitude and practice was filled by participant within 15 minutes of time.

Results: Out of total of 244 participants, 97.9% participants knew the definition of OTC. 79.1% participant bought medicine without prescription. 63.3% believe drugs advertised on television and Social Media are not reliable. 38.7% agree to share OTC medication with others & 23% disagreed and rest were neutral. 56.4% participants consume OTC drugs when symptoms are minor. 40.8% use more commonly in fever and headache followed by 33.2% cough & cold then diarrhoea. 64% participants feel adverse effects after OTC drugs consumed.

Conclusion: Medical students are the future medicine practitioners with well exposed to the knowledge about drugs and diseases. And they have a potential role in counselling the patients about advantages and disadvantages of OTC drugs.

Keywords: Over-The-Counter Drugs; Self Medication; Survey on OTC, Cross Sectional Study.

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Introduction

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, nonsteroidal anti-inflammatory drugs (NSAIDs), cough mixtures, skin care products, sore throat products, antipyretics, and laxatives.[1]

Despite all their benefits, improper use of medicines can bring potential health hazards and evidence continue to mount that adverse reactions to medicines are common, yet often preventable, cause of illness, and even death is evident.[2]The available medicines are restrictive compared to prescribed ones and there often limitation to indications and doses. However, deregulation is increas-

ing from prescribed medicines to the OTC drugs through internet and online pharmacies.[3]

OTC medicines can be classified into two categories:

- First category OTC medicines are those which were non-prescription medicines since the time they were introduced.
- The second category OTC medicines are those that had been prescription medicines initially but were later shifted to the OTC category [4].

Many countries recognize OTC medicines as a separate category of drugs and have established regulations for their use. In accordance to that, over the period large number of drugs have been deregulated and made available as OTC drugs.

There are currently more than 3,00,000 different OTC drugs available only in US. OTC drugs or non-prescription drugs are group of medicines which can be obtained without the prescription of registered medical practitioners, and regulated by Food and Drug Administration (FDA) through OTC drug monograph.[5]

In India, the trend of using OTC drug is very high. There is no legal recognition for OTC drugs in India, but all those drugs not included in the list of 'prescription only' are considered to be non-prescription drugs. At present, there is no OTC schedule in the Drugs and Cosmetics Rules 1945. Hence, any drug outside schedule H, G, and X is considered to be an OTC drug. Central Drugs Standard Control Organization (CDSCO) regulates import, manufacture, distribution and sale of drugs and cosmetics by Drugs and Cosmetics Act (DCA) and its subordinate legislation, Drugs and Cosmetics Rules (DCR), 1940 in India. [6]

Materials and Methods

A prospective, cross-sectional and questionnaire base study was conducted among 2nd year medical

students to intern's doctor of Government Medical College Datia (Madhya Pradesh). The details and purpose of study were explained to students and informed consent was obtained from each respondent. There was one set of questionnaires, consisting of 30 question related to OTC drugs, it's about their Knowledge, attitude and practice distribute by using Google form. For each participant 15 minutes time was given to reply the questionnaire. If they persists any difficulties to give answer, they can quit the questions. All the data was pooled on the given mail and result was analysed in descriptive statistics. The study was conducted after approval of institutional ethics committee: 1218/Pharma/I ECBMHR/GMC/2023.

Statistical analysis: The data obtained by Google forms was entered into Microsoft & excel sheet. The data was analysed into no. and percentages.

Results

The results of the present study are presented According to knowledge, attitude & practice in the form of tables and graphs which were shown below:

Table 1: Knowledge

Question	Yes (%)	No (%)
In medication parlance acronym OTC Stands for over the counter?	97.9	.1
Are OTC drugs safe to consume?	65.7	34.3
Do continue use of OTC drugs result in Adverse effects?	75	25
OTC drugs can be given only with prescription of a Registered practitioner?	65	35
Continuous use of OTC drugs result in drug dependence?	81.9	18.1
There is no legal recognition of OTC drugs in India?	51.1	48.9
OTC drugs should be taken according to recommended dose?	96.6	.4
OTC drugs could interact with other prescribed drugs?	89.4	10.6

Table 2: Attitude

Question	Yes (%)	No (%)
Have you ever bought medicine without prescription?	79.3	20.7
Is OTC drugs Medication harmful?	52.6	47.4
Drugs advertisement on television and social Media are reliable?	63.3	36.7
Dietary supplements have no side effects?	68.4	31.6
You can buy as many medications as you want at any time via phone or the internet?	56.1	43.9

Table 3: Practise:

Question	Yes (%)	No (%)
Did you consume the correct dose of a drug?	88.1(208)	11.9(28)
In all type illness, you have taken OTC drugs?	73.6(173)	26.4(62)
Did you consume correct frequency and duration of a drug?	78.7 (185)	21.3(50)

Table 4: Reason for consuming drug

Reason for which OTC drug consume	No. of students	Percentage
When symptoms are minor	133	56.0
Whenever I feel sick	61	26.0
When I cannot visit a doctor	41	17.4

Table 5: Symptoms for OTC drug taken

Symptoms	No. of students	Percentage
Fever and headache	97	40.8
Cough and cold	79	32.3
Painkiller	23	9.7
Diarrhea	13	5.5
Multivitamin	13	5.5
Abdominal cramp	5	2.1
Acne ointment	4	1.7

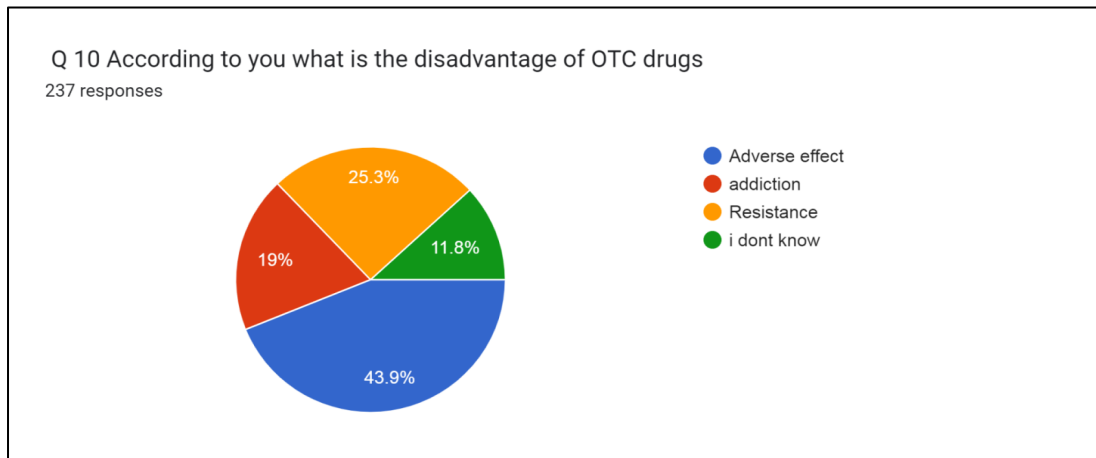


Figure 1:

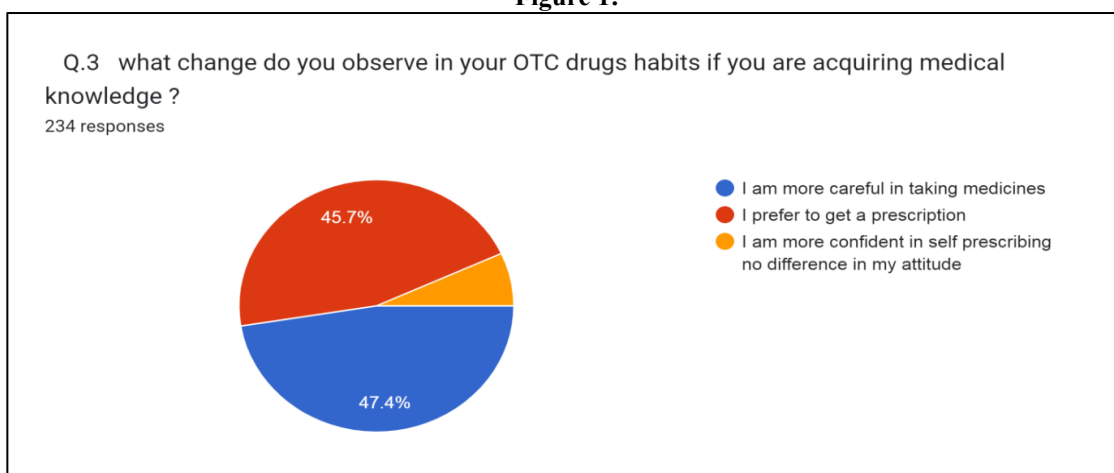


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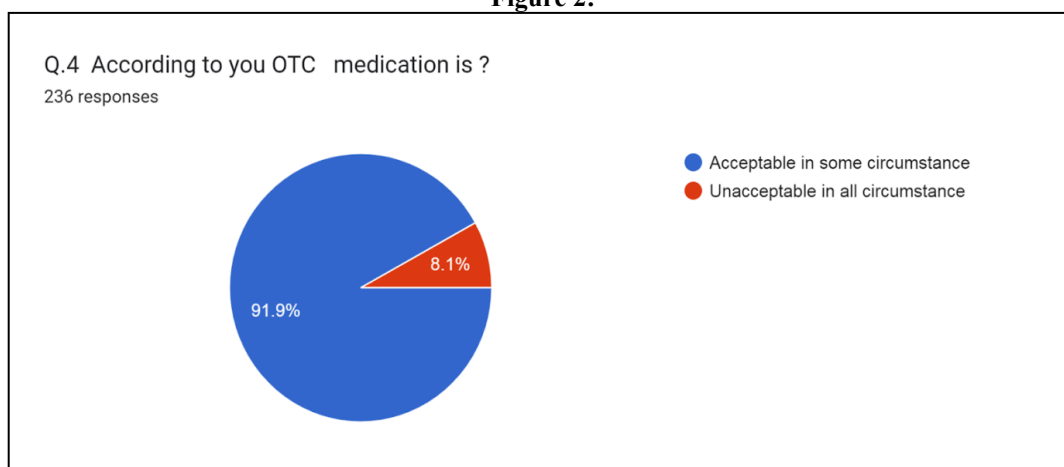


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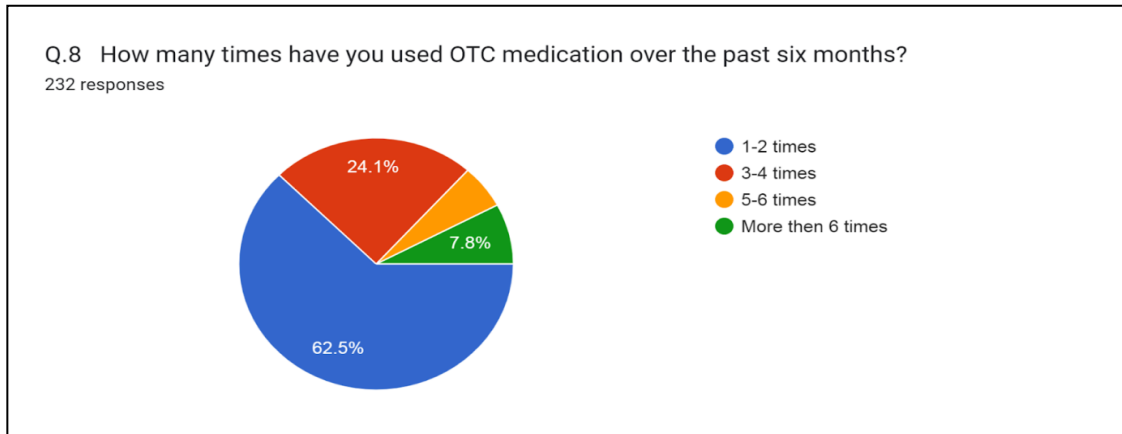


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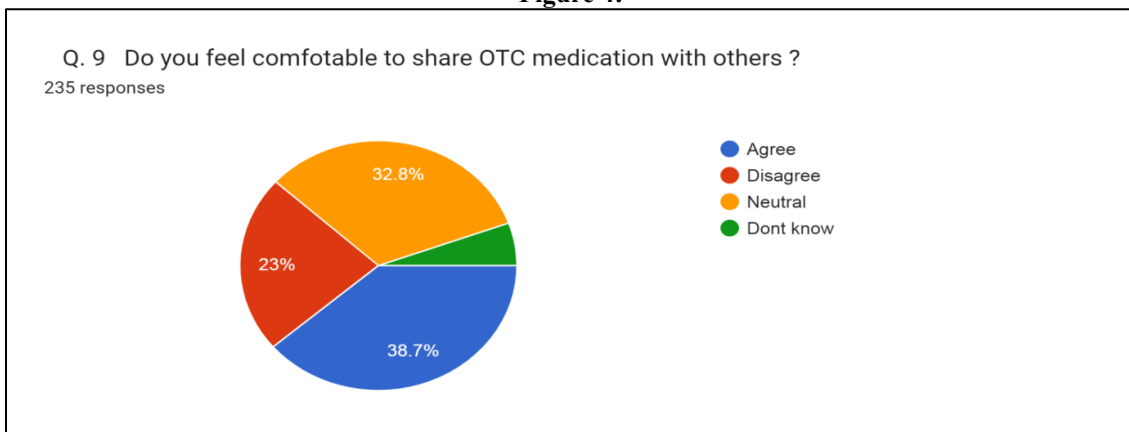


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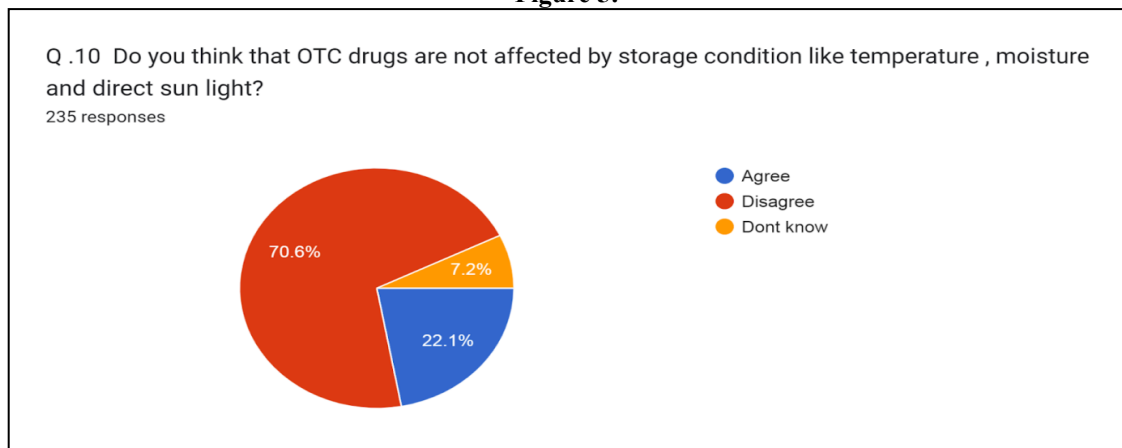


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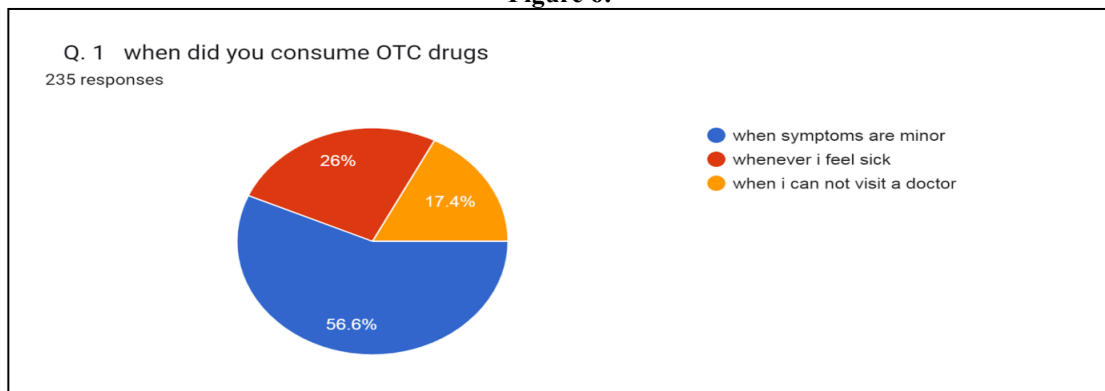


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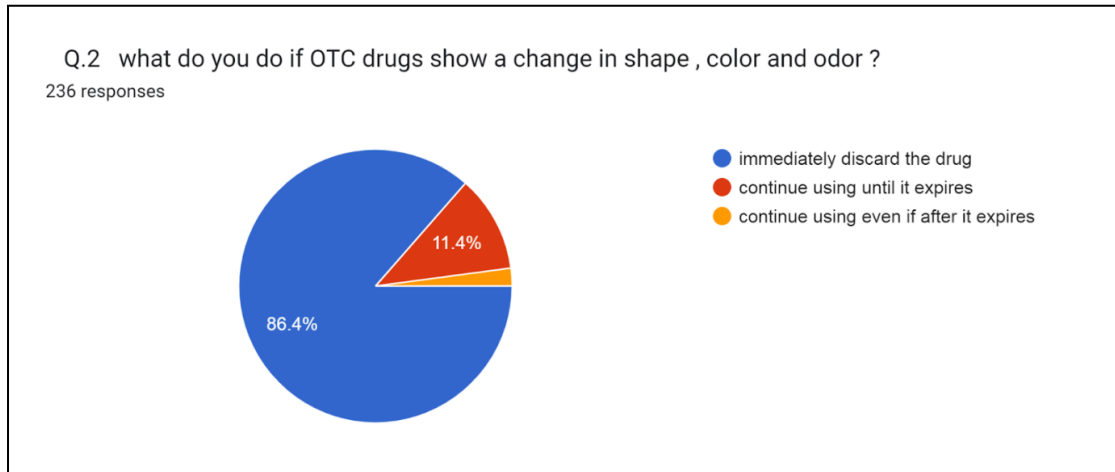


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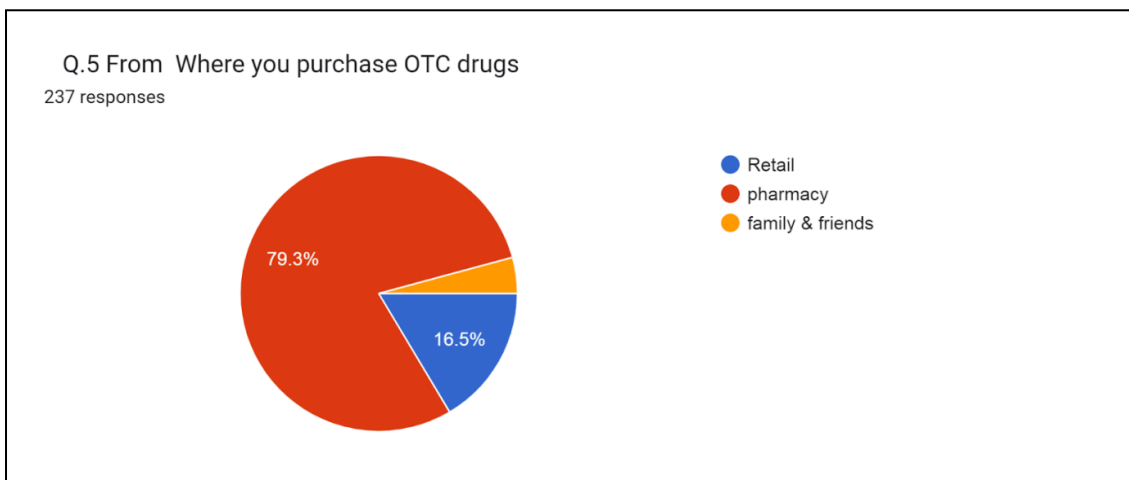


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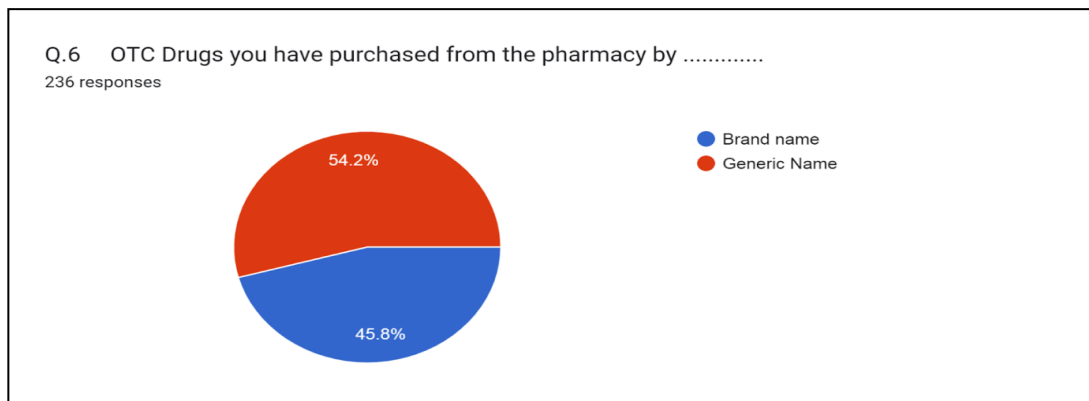


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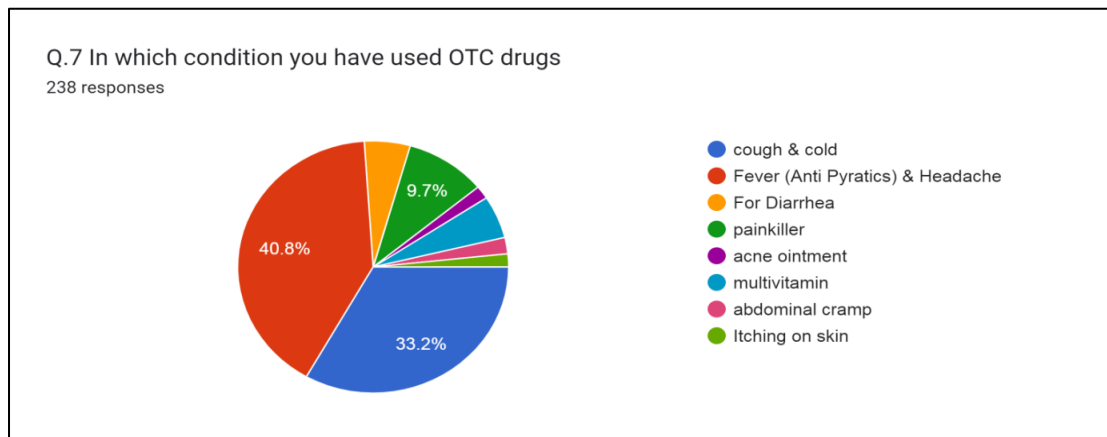


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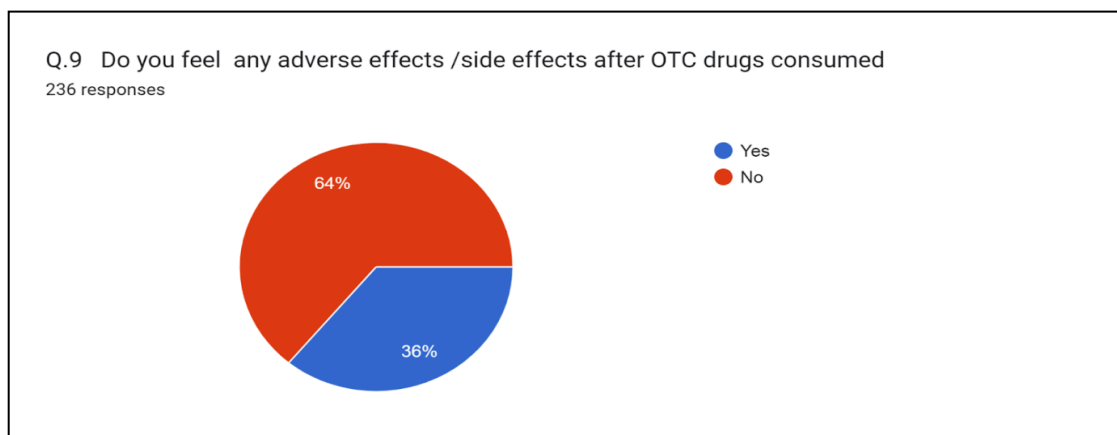


Figure 12:

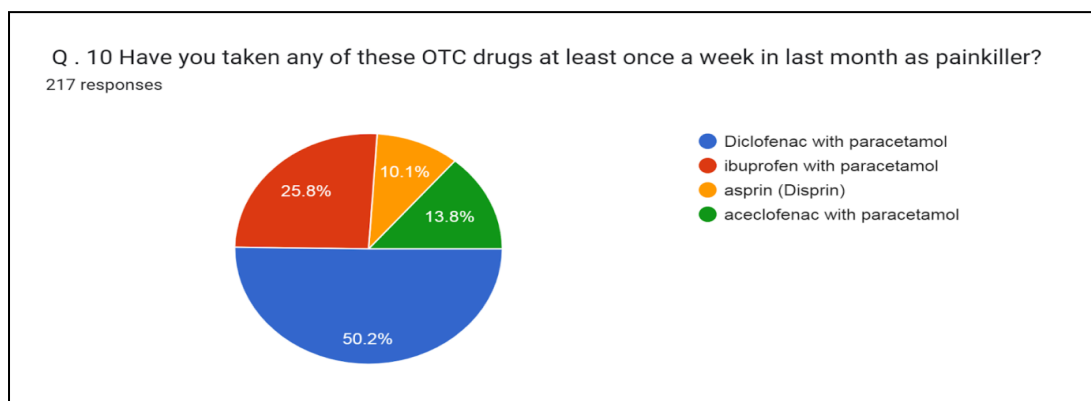


Figure 13:

Discussion

A total of 244 students were analyzed among that were 88(36.1) girls and 155 (63.5) were boys. About 97.9% participants knew the definition of OTC and 65% used medication without prescription in last 6 month. The results of experience about OTC drugs are 65% (154 students) students follow prescription where as 35% (83 students) are not, only 36% (85 students) students' experience adverse drug reaction to over the counter drugs. The disadvantage of OTC drugs 43.9% (104 students) said adverse effects and 19%

(45 students) addiction, 25.3% (60 students) resistance & 11.8% (28 students) don't know.

OTC drug purchase by 79.3% (188 students) from pharmacy & 16.5% from retail, 4.2% (10 students) from family friends. The most common condition where have used OTC drugs 40.8% (97 students) for fever & headache followed by cough and cold 33.2% (79 students), painkiller 9.7% (23 students) then diarrhoea 5.5% (13 students) Table 5. A number of specific OTC medicines and therapeutic groups have been implicated and in a recent review for doctors, for example, [7] suggested medicines

such as stimulants, laxatives, sedatives, and dissociative substances such as dextromethorphan as being susceptible to abuse.

They noted that in relevancy abused medicines, “the literature is thin concerning OTC medicines” and their review tellingly omits opiate-based OTC analgesics. The latter area unit on the market for purchase in several countries and blend codeine or dihydrocodeine with either ibuprofen or paracetamol and have led to particular concerns about addiction and also gastric or hepatic damage, respectively.[8] A study done by Shankar et al. concludes that 59% of respondents using some form of self-medication in the 6-month period preceding the study. The most commonly used self-medication was paracetamol and other NSAIDS. Residence in an urban area, male sex and age < 40 years were associated with increased self-medication [9] One more study conducted in east Bangalore by Silvan merlin thaipparambil concludes that Pharmacist should play an important role in counseling the patients when dispensing drugs from community setup. Regulatory authorities and government should streamline the process of drug regulation and safety issues of OTC drugs.[10]

To summaries all students practiced OTC drugs however only 35% students are agreed with the practice and this attitude need to be changed. About 75% (180 students) students have good knowledge about the use of OTC drugs and related side effects. Fever & headache, cough & cold, and painkiller are the most common condition for using OTC drugs,

Conclusion

Many studies are done on general population on OTC drugs but medical students are totally different from them as they are the future medicine practitioners with well exposed to the knowledge about drugs and diseases. And they have a potential role in counselling the patients about advantages and disadvantages of OTC drugs. Therefore, this study was haunted to search the utilization of OTC drugs among medical students during a tertiary care teaching hospital Use of OTC drugs is common form of health care having potential benefits and health hazards. Awareness should be created among students to limit the use of OTC drugs.

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