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A Review on Augmentation in Irrational Use of Over-The-Counter Drugs and Its Complications Along with Counseling



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ABSTRACT

Over –The –Counter medications are used by a variety of patients and people from all the regions of the world for treating common ailments. India is the biggest OTC (over the counter medication) producing country produces about 50% of the drugs used globally. Unnecessary OTC drug consumption leading to the various side effects of ADR's (Adverse Drug Reaction's). Pharmacist also helps and contribute patients to get the desired therapeutic outcome as well as providing knowledge about drug and its actions which is known as the term pharmaceutical care. As the illicit use of drugs is growing day by day which is the major problem faced by the healthcare system in today's scenario. The pharmacist's responsibility is to dispense the accurate drug in a specific required dose according to their clinical need and to counsel the patients and giving necessary knowledge about. the drug i.e route of administration, time of administration, required dose, its side effects, and possible interactions. Taking the wrong drug, drug dose too high or low or wrong time of administration or interactions (drug-drug, drug-disease, drug-food affects) may affect the efficacy and desired action of the drug. Suitable methods should be taken by the government and the healthcare teams to educate people about the safe and effective use of drugs to stop the unnecessary use of drugs.

INTRODUCTION

Over-The-Counter medications are used by a variety of patients and people from all the regions around the world. The purpose is for the common ailment treatments. OTC medication provides possible prevention and treatment in several diseases. But its irrational use is growing day by day. Many industries have given their contribution to this growth reach 10229.99 million USD by the year 2024. According to a report of the year 2005, the OTC segment was INR 4500crores and it is the most beneficiary part of drugs manufactured and sold for both the pharmaceutical industries and pharmacists too. India makes a 50% of Global Drug Supply (GDS) and according to the report in the year 2018 India's OTC market was valued at about 4611.88million and to be expected that it will reach 10229.99million USD by the year 2024⁽¹⁹⁾. This increment in the values is all due to the irrational and unnecessary use and increased belief of patients towards self-medication. All the factors taking place due to improper knowledge about medications and increasing healthcare unawareness. Unfit habits and an unbalanced diet is the major cause taking place today.

According to the World Health Organization, "OTC Drugs are the medications sold directly to consumers without any prescription from a healthcare professional as opposed to the prescription drug, which may be only sold to the consumer possessing a valid prescription".

As patient safety is the major challenge for public healthcare and the healthcare system is mainly focusing on hospital care and monitoring. There is evidence shows that irrational prescribing and irrational use of OTC drugs are considered as most harmful and may lead to the DRP(Drug Related Problems) which is affecting the patients' desired health care outcomes.

According to WHO rational use of medications is defined as "patient received medications appropriate to their clinical needs, in the dose that meets their requirements for an adequate period of time and at the lowest cost to them and their community". Patients are moving to OTC rather than prescribed medications without consulting with doctors for minor ailments which is a little bit beneficial but potentially harmful.

Many non-prescription drugs are classified under the OTC (over-the-counter) category followed by table1. Showing the list of various classes of drugs along with examples.

TABLE No.1: SHOWING CLASSIFICATION OF DRUGS COMS UNDER OTC MEDICATIONS

· DRUG CLASSIFICATION	EXAMPLES
· ANTI PYRETICS	PARACETAMOL
· ANALGESICS	IBUPROFEN
· Non-Steroidal Anti Inflammatory Drugs	ASPIRIN
· NASAL TOPICALS	MUPIROCIN
· ANTI-HISTAMINES	LIVOCETRIZINE
· DECONGESTIONS	PHENYLEPHRINE
· EXPECTORENTS	DIPHENHYDRAMINE MALATE CITRATE
· ANTACIDS	RANITIDINE
· ANTI-DIARRHEAL	NORFLOXACCIN
· TOPICALDERMATOLOGICALMEDICINE	CLOBASTEROL
· DENTIFRIES	STANNOUS FLOURIDE
· ANTI BIOTICS	AMOXYCILLIN
· MOTION SICKNESS	DIMETHYLDNRINATE
· SHAMPOO	KETOCONAZOLE
· VITAMINS	VITAMIN B COMPLEX
· MINERALS	EPSON SALT
· PROTEIN SUPPLEMENTS	AMINO L-ARGINATE
· ACNE TREATMENT	BENZOYL PEROXIDE GEL
· DIABETIC	METFORMIN
· DEODORANTS	ANTI PRESPIRANTS
· ANTI-ITCH	HYDROCORTISONE
· ANTIFUNGAL	CLOTRIMAZOLE
· FOOTCARE	SALICYLIC ACID
· EAR CARE	GENTAMYCIN DROPS
· EYECARE	SODIUM CARBOXYMETHYLCELLULOSE
· SOAPS	CETRIMIDE
· ANTI-INFECTIVES	NEOSPORIN
· FIRST AID	BANDAGES
· ANTI-EMETIC	ODNESTERON
· SKIN PATCHES	DIGOXIN DETOX PATCHES
· LOZENGES	STREPSILS

*** RISK OF ADVERSE DRUG REACTIONS WHILR TAKING OTC MEDICATIONS**

1. It may cause harm as it may interact with other medications, foods, drinks, or supplements or in polypharmacy and leads to:

a. Drug-drug interaction

b. Drug dose interaction

c. Drug-disease interaction

2. Many OTC drugs are not safe during pregnancy. So it's compulsory in several cases to discuss with a healthcare provider before taking medications.

3. Choosing the right dose is very necessary to get the desired effect. If it can give dose higher or lower than required it may lead to toxicity or adverse effect.

4. In the case of antibiotics cases of antibiotic is increasing day by day due to its unnecessary use i.e. in common cold and viral infections where the antibiotics do not work.

5. Many patients are allergic to many drugs. so it is very necessary to concern before taking medications.

6. LASA (look-alike sound-alike) drugs are also the major problem leading to drug error because many drugs have the same name but the active pharmaceutical ingredient is different.

7. OTC drugs are leading to many serious intellectual problems i.e.

a). Renal failure

b).hepatic toxicity

c).drug resistance

d).drug addiction



Overuse of OTC drugs for treating pain are also used in high dose by self-medicated patients and becoming drug abuse they are taking euphoric drug dose or dose higher than they need i.e. in case of anxiety cough medication named as core cause hallucination and it is banned now in India.

Overuse of antibiotics leading to antibiotic resistance i.e. MRSA (methicillin resistance staphylococcal aureus), VRSA (VANOMYCIN RESISTANCE STAPHYLOCOCCAL AL AUREUS) due to overdose than recommended leads to gene mutation in bacteria and antibiotics can NOT show the desired response when the response is needed. And cause side effects too.

Let us take the example of drug DEXAMETHORPHAN which is commonly used for treating cough but in large doses, it shows the psychoactive effect according to USDEA (the United States drug enforcement administration) its effect is divided based on its effectivity and dose given showing abuse effects.

TABLE NO. 2: SHOWING THE DOSE DEPENDENT ABUSE LEVEL ALONG WITH ITS SIDE EFFECTS.

<i>Level of abuseness</i>	<i>Dose (mg/day)</i>	<i>Effects</i>
<i>1st level or plateau</i>	<i>100-200</i>	<i>a) Shows stimulating effect.</i>
<i>2nd level or plateau</i>	<i>200-400</i>	<i>a) This leads to a feeling of euphoria. b) Visual hallucination.</i>
<i>3rd level or plateau</i>	<i>300-600</i>	<i>a) Visual hallucination. b) leads to the feeling of euphoria. c) imbalance motor co-ordination.</i>
<i>4th level or plateau</i>	<i>>_600</i>	<i>a). leads to extremely sedated b). higher chances of serious side effects</i>

***Plateau** - A plateau is defined as "a period or state of little or no growth or decline". The plateau principle is a mathematical model or scientific law originally developed to explain the time course of drug action (pharmacokinetics). ... It applies whenever a drug or nutrient is infused or ingested at a relatively constant rate and when a constant fraction is eliminated during each time interval.

COUNSELING FOR OTC DRUGS INTAKE DIRECTION

Over the counter, counseling refers to the counseling that a pharmacist may give to the patient about the drugs taken by any individual related to their administration, dose, time, and possible interactions related to the drug and other drug-related necessary information. As to provide good outcomes of the treatment. Pharmacy is a noble profession but sometimes incomplete knowledge is very harmful and leads to several serious problems in case of self-medication.

These are the points need to be followed by a pharmacist at the time of counseling

1. Interact with the patient relax fully with no worries and calmly listen to their problem.

2. Understand their problem and provide them a possible solution and only give the drug if necessary
3. Before dispensing the drug it is necessary to talk with the patient about the reason for what the individual is taking a drug.
4. Discuss previous medication history and what drugs are commonly taken by individuals or prescribed by doctors in the past.
5. Ask about allergy from any specific drug and specific conditions i.e. age, sex, weight, pregnancy if the individual is aware or known.
6. Any side effects, you observed before by taking the drug you are following.
7. Then check the possible interaction i.e. in case of a patient taking multiple drug therapies.
8. Then describe the individual about the administration of drugs. What to take, when to take, with whom to take (milk or water), how much to take.

Before counseling, the following conditions are known:

1. Blood pressure of patient
2. Diet veg or non-veg
3. Alcoholic or not
4. Smoker or not
5. Taking a balanced diet or not
6. Sleeping properly or not
7. Mentally healthy or not

As a pharmacist, it's our moral duty to serve the community so do not be feel embarrassed or hesitate while counseling patients as the individual is not appointed with a physician so we must give the individual a suitable medicine and substitute if demanded medicine is not available. There is a certain need for awareness for young pharmacists and society too.

CONCLUSION

According to the literature studies, we have studied that there is a certain need for making specific guidelines and strict rules for the safe use of drugs to improve possible healthcare outcomes. OTC medications are sold without prescription so many drugs are taken commonly without any therapeutic body needs (i.e. Antibiotics in common cold and viral infections) where these drugs have no effects and lead to drug resistance in human bodies. Also it is concluded that patients can't consult with practitioners directly in case of minor ailments so it's a pharmacist's duty to provide proper support as much as possible and only dispense the necessary drug. Because our primary aim is to stop unnecessary use of drugs which harms the patient.

REFERENCES

1. <https://www.fda.gov/drugs/questions-answers/prescription-drugs-and-over-counter-otc-drugs-questions-and-answers>
2. Hepler CD, Strand IM. Opportunities and responsibilities in pharmaceutical care. AM J hosp pharm;1990; 47; 533-43; <https://pubmed.ncbi.nlm.nih.gov/2316538/>.
3. Lessenger JE, Feinberg SD. Abuse of Prescription & OTC Medication <https://pubmed.ncbi.nlm.nih.gov/18178702/>
4. Jam Board Fan Model 2008-Jan-Fed-21(1)45-54DOI103122(JABFM2008:0.1070071
5. Natasa Bakic, Miric, Introducing OTC Counseling ACTA MEDICA MEDIANE2009:48(1)41-45
6. WWW.MORDENTINTELLIGENT.COM. http://publisher.medfak.ni.ac.rs/AMM_1/amm-stari/2009-html/1-broj/INTRODUCING%20OVER%20THE%20COUNTER%20COUNSELING.pdf
7. https://www.researchgate.net/publication/260240831_Irrational_prescribing_of_over-the-counter_OTC_medicines_in_general_practice_Testing_the_feasibility_of_an_educational_intervention_among_physicians_in_five_European_countries
8. <http://archives.who.int/tbs/rational/h3011e.pdf>
9. Safety OF OTC Medication In Pregnancy, Stanly Ay, Divrham Co, Sterret Jj, Wallace Jb.
10. Irrational prescribing of over-the-counter (OTC) medicines in general practice: testing the feasibility of an educational intervention among physicians in five European countries <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936810/>
11. WIKIPEDIA.OTC.DRU https://en.wikipedia.org/wiki/Over-the-counter_drug
12. WWW.NCBI.NLM.NIH.GOV
13. <https://doi.org/10.1093/geront/gnu34>.
14. Soller RW Evolution of self-care with over-the-counter medications. Clint her 1998; 20(supply):134-40 <https://pubmed.ncbi.nlm.nih.gov/9915100/>
15. McDonough RP. Interventions to improve patient pharmaceutical Care outcomes. j am pharm assoc 1996; 36(7):453-65 <https://pubmed.ncbi.nlm.nih.gov/8840745/>
16. Abood, E.A.; Wazaify, M. Abuse and Misuse of Prescription and Nonprescription Drugs from community Pharmacies in Aden city – Yemen.Subst.Use Misuse2016,51,942-947. <https://pubmed.ncbi.nlm.nih.gov/27100671/>
17. <https://www.scribd.com/document/312572822/According-to-World-Health-Organization-2013>
18. <https://www.ncbi.nlm.nih.gov/pubmed/8840745>
19. <https://medical-dictionary.thefreedictionary.com/plateau>
20. <https://apeejay.edu/aitsm/journal/docs/ajmst-010105oct13.pdf>