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KNOWLEDGE, ATTITUDE AND PRACTICES OF OVER THE COUNTER (OTC) MEDICINES AMONG URBAN POPULATION - A CROSS SECTIONAL STUDY

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ABSTRACT:

Background: The main aim of the study was to assess the knowledge, attitude and practices of OTC drugs among urban population as well as which indications OTC drugs are used most of the time.

Methods: This cross-sectional study was carried out over a period of four months (November 2017 to February 2018) in Moga, Punjab, India using a self administered pre-validated questionnaire set which was prepared based on previous studies.

Results: Among 100 study participants 90% were males and 10% were females also 98% knew about the OTC drugs. Reason for taking OTC drugs were majority of them was 46% people take it due to their low cost. Analgesics 99% and antipyretics 97% were the most common class of drugs self medicated by the majority of the participants. Fever and headache were mostly reported. A majority of study participants 76% never read the instructions given on the product label and 54% occasionally check the expiry date before using the drug. Large proportion of participants 76% continue the use of drug till it expires even if it shows change in shape, color and odour. Over 76% of the study participants consult to pharmacist and 17% to friends before using OTC drugs.

Conclusion: The respondent showed poor knowledge towards self medication. Analgesics and antipyretics were most commonly used drugs. Prevalence was high in males. The drug regulatory authorities should control unsafe self-medication practices.

KEYWORDS: Over the counter, Self medication, OTC drugs, Practices, Urban population

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INTRODUCTION:

The International Pharmaceutical Federation defines self medication as the use of non-prescription medicines by people on their own initiative[1]. According to World Health Organization self medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms[2]. Self medication involves acquiring medicines without a prescription, resubmitting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using spare medicines stored at home[3]. The history of self-medication practice is very old from global perspective, with extensive influence in developing countries like India[4]. Self medication thus forms a crucial part of self-care, which can be defined as the primary public health resource in the health care system. It includes self- medication, non-drug self-treatment, social support in illness, and first aid in daily life[5]. Medicines for self medication are often called Non-Prescription or Over the Counter (OTC) and are available without a doctor's prescription through pharmacies[6]. Self medication with OTC medicines is occasionally referred to as 'responsible' self-medication to distinguish it from the practice of purchasing and using a prescription medicine without a doctors' prescription[7]. This, combined with poor community literacy about medication safety and usage, leads to misuse and overuse of medications in India. This, in turn, can contribute to ill-health, public health predicaments such as antibiotic resistance and further misery of the community[8]. Failures in the pharmaceutical regulatory environment in India have contributed to oversupply and ease of access to various medications including many with little evidence to put up with their safe use[9]. The reported estimates of self medication with antibiotics frequencies in the general population are 3%-19% in developed countries and 9%-100% in developing countries, with cost of masking symptoms, treatment failure, drug resistance, and adverse drug events (ADEs) including death[10,11]. World Health Organization (WHO) recommends the education of the public and health care providers on preventing antibiotic misuse and the concerns of bacterial resistance[12]. Drugs have benefits and side effects so it is necessary to be taken in a specific regimen in accurately measured dose or else it is toxic and can cause more harm than good[13]. In India, few important causes for increase in self-medication are showing sympathy to their ill relatives or friends, healthcare services not easily available specially in rural areas, poverty, unawareness, misbelieves, too much drug advertisements given by pharmaceutical companies, and easy access to medications from pharmacies because full time pharmacist is not available their pharmacy functions without pharmacists and common drugs can be attained from grocery shops (other than pharmacy)[4]. Too much information culled from the internet or magazines make people confident about treating their own illness. A doctor's fees may be unaffordable. The Dangers of Self-medication are many such as habituation, allergic reactions that may be severe or even fatal. Under-dosage[14]. Self medication is an area where governments and health authorities need to ensure that it is done in responsible manner, ensuring that safe drugs are made available over the counter and the consumer is given sufficient information about the use of drugs and when to consult a doctor[15]. In this context, the Pharmacist has an important role to play because they are the most trusted and easily accessible healthcare professionals available to the public as compared to other healthcare professionals[2]. The type and degree of self-medication and the reasons for its practices may vary from country to country. There is, therefore, a need to know knowledge, attitude and practices of over the counter (OTC) medicines among urban population to formulate appropriate educational, regulatory and administrative measures utilized in alleviating the public health risks arising from improper practices of self-medication. No data is available on the current status of self-medication practices among urban population in the punjab region which the current study aimed to generate.

Objectives

1) To assess the knowledge, attitude and practices of OTC drugs among rural population.
2) To assess for which indications they use OTC drugs most of the time.
3) To overview which groups of drugs mainly used by them as OTC drugs

4) To overview occurrence of side effects due to OTC drugs.

MATERIALS AND METHODS:

It was a cross-sectional study and carried out over a period of four months (November 2017 to February 2018) in Moga, Punjab, India using a self administered pre-validated questionnaire set which was prepared based on previous studies and is validated in two steps:

a. It was sent to experienced pharmacy academicians.

**b.** A pilot study n=10 was done to sought the opinion of the population.

The information pertaining to the pattern of OTC drugs use, reason and indication for OTC drugs use, list of drugs commonly used for self medication were included in the questionnaire. The investigators were present in case the respondents required assistance. For the purpose of the study, certain medical terms were explained to the study participants if they could not understand. Collected data were entered in excel sheet and analyzed with proper statistical method. A total 100 peoples were included in this study from rural area who agreed to participate in the study after explaining about the study to them and taking their written consent. Those whose age was below than 18 years were excluded and those who were not willing to participate were excluded from the study.

RESULTS:

Among 100 study participants 90% were males and 10% were females also 98% people knew about the OTC drugs. On an average seven times in last one year they practiced self-medication and used OTC drugs. The study participants were allowed to fill multiple options in questionnaire, so response Percentage is taken (N=100). It is seen that reasons for taking 0TC drugs are various, though majority of them 46% people take it due to their low cost, followed by 41% people due to safe and well tolerable, 29% due to their easy accessibility, 24% due to time saving. Details are shown in [Figure 1].

Table no-1, Reasons for taking OTC drugs
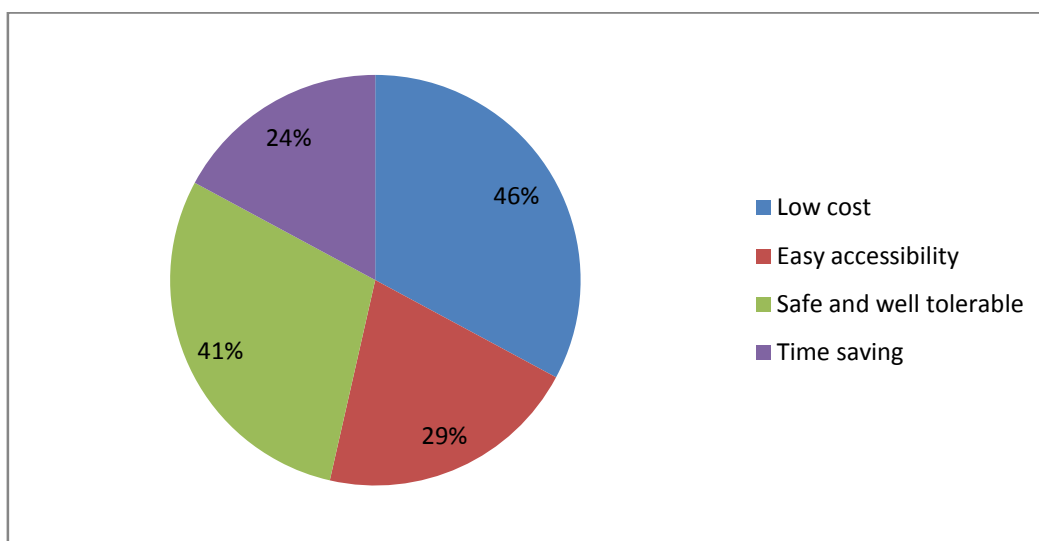
Fever were the most frequently reported indication for use of OTC drugs, Headache were the second and third most common indications were cough & cold followed by pain, with a frequency 97(97%),82(82%), 73(73%), 53(53%) respectively. Other indications for self medication included Vomiting and stomach pain 33(33%), Constipation 3(3%),indigestion and minor cuts 3(3%)[Table 1].

Table 1: Indications for using OTC drugs

INDICATIONS FOR USING OTC DRUGS	RESPONSE NO (%)
Fever	97(97)
Headache	82(82)
Cough and cold	73(73)
Pain	53(53)
Vomiting	33(33)
Stomach pain	6(6)
Constipation	3(3)
Indigestion	3(3)
Minor cuts	3(3)
Skin problem	0

Analgesics and antipyretics were the most common class of drugs self –medicated by the majority of the participants (99%)(97%), followed by cough and cold preparations (73%). It was also observed that (63%) of the participants reported to have self-medicated themselves with Antibiotics followed by Anti-emetic (63). Details are shown in [Figure 2].

Figure 2. Types of drugs used for self-medication among rural population
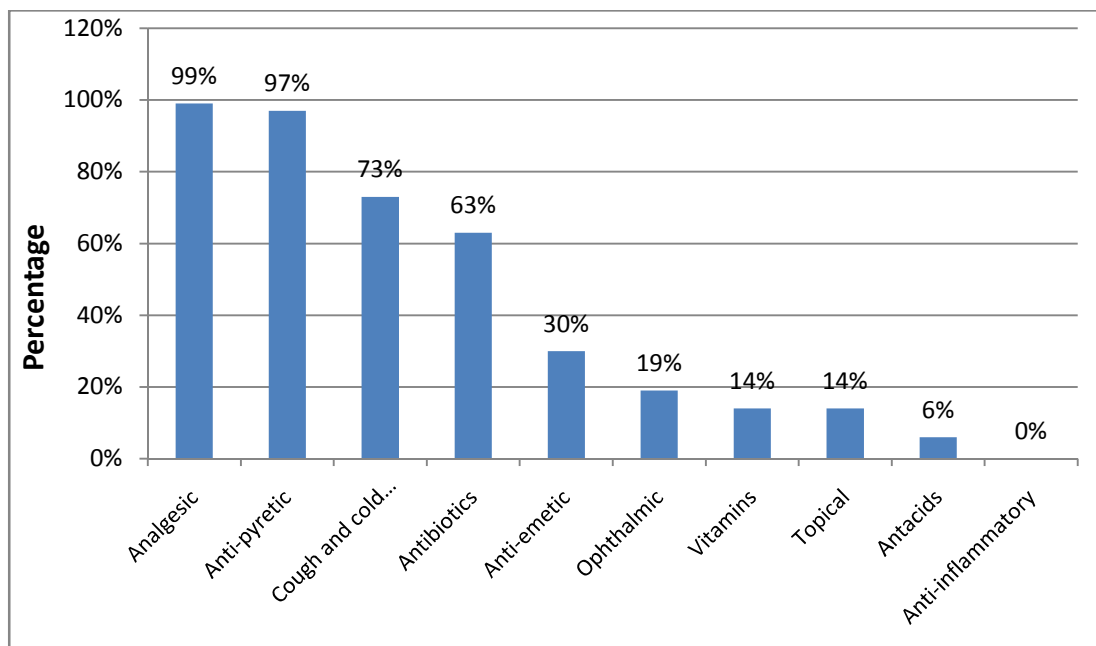
While considering the attitude and practices of self-medication it was found that a majority of study participants 76% never read the instructions given on the product label and over 20% of them occasionally and only handful of them 4% reads the instructions that are given on the product label. In case of checking the expiry date of the drug before use 54% occasionally check the expiry date before using the drug and 37% of participants always checks while 9% never checks the expiry date. The main reason for consuming the OTC drugs majority of participants 39% agreed was whenever they feel sick and only 25% of them said that they consume OTC drugs when symptoms are minor/manageable.

Surprisingly a large number of participants over 91% not ever takes OTC drugs more than the recommended dose only a minor number 9% agreed that they takes OTC drugs more than the recommended dose. Up to 76% of study participants consulted with to pharmacist before using OTC drugs, 17% with friends while only 7% consults with the doctor.

When asked about whether they have experienced any side effects from the use of OTC drugs surprisingly 54% people had not experienced side effects from OTC drugs only 44% study participants experienced side effects from OTC drugs. A majority of participants 76% continued use of drugs till it reached expiry date and showed change in shape, color and odour. Only 12% said that they immediately discards the drug when it shows change in shape, color and odour and 12% said it doesn't matters. Over 90% study participants knew about the OTC drugs and reluctant use of OTC drugs are harmful, but majority use them [Table 2].

Table 2: Attitude and Practices among rural population regarding self medication of OTC drugs

READ THE INSTRUCTIONS ON DRUGS LABEL BEFORE USE	Percentage (%)
Never	76
Occasionally	20
Always	4
CHECK THE EXPIRY DATE BEFORE USE	
Occasionally	54
Always	37
Never	9
WHEN YOU CONSUME OTC DRUGS	
Whenever I feel sick	39
When I cannot visit doctor	36
When symptoms are minor/manageable	25
EVER TAKE OTC DRUGS MORE THAN RECOMMENDED DOSE	
Yes	9
No	91
CONSULTANT BEFORE USING OTC DRUGS	
Pharmacist	76
Friends	17
Doctor	7
SIDE EFFECTS FROM OTC DRUGS	
Yes	36
No	54
WHEN OTC DRUGS SHOW CHANGE IN SHAPE,COLOR AND ODOUR	
Continue use till it expires	76
Immediately discard the drugs	12
Does not matter	12

Out pharmacy was the major source for receiving OTC drugs 80% people received OTC drugs from out pharmacy and 20% from hospital pharmacy [Figure 3].

Figure 3: Source for receiving OTC drugs
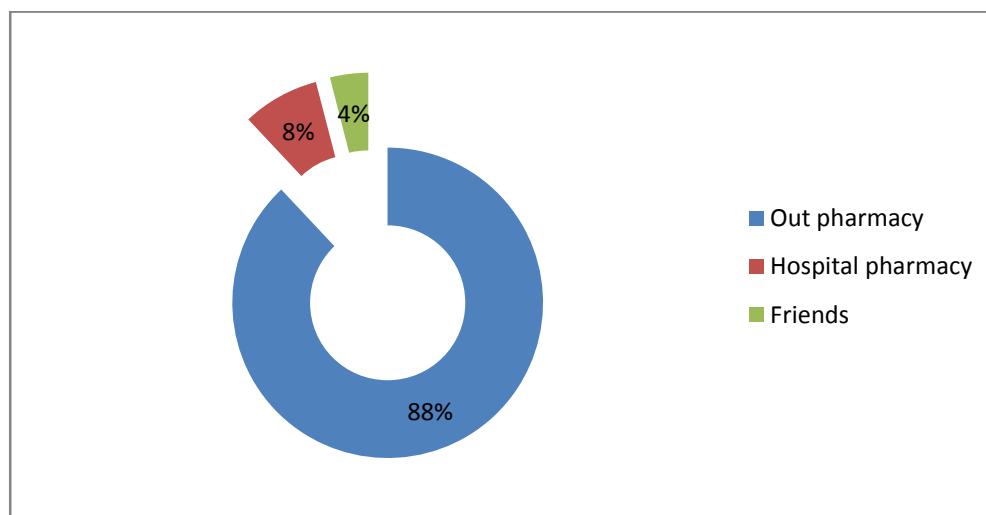
DISCUSSION:

We acknowledge that this type of study, using a self administered questionnaire, is largely dependent upon information given by respondents however given the high level of response, the results should closely approximate the behavior of the urban population in North India. This study has shown that self medication of OTC drugs is highly prevalent among males than their female counterparts. In our study it was found that among 100 people who filled up questionnaire, only one did not use any OTC drug in last one year which is similar to other studies previously conducted in North India[16] .Our study denoted that the most common reasons for self medication were low cost 46%, safe and well tolerable 41% which was also reported in similar studies which were conducted in other parts of the country and world[3,4,7,17,18].

Antipyretics and analgesics were the most common class of drugs self- medicated by majority of the participants in our study. Similar observations were made in a study from South India, Egypt and Ethiopia[3,13,19,20]. Pain and fever was the most common indication for self-medication of OTC drugs in our study which was similar to observations made in Tamil Nadu[21]. A study from Ethiopia[19] also reported fever as the most common symptom for self-medication.

Cough & cold preparations 73% were more consumed by our study participants than Antibiotics which were self-medicated by 63% of the study participants in our study. Our results are higher than that reported in other studies from India[3,22,23]. The antibiotic use for self-medication was reportedly similar, and higher in studies from developing countries[6,17,24,25]. Use of OTC antibiotic was remarkable that can lead to harmful condition like antibiotic resistance which is a major concern in recent days.

While assessing the attitude and practices of self-medication it was found that a majority of study participants 76% never reads the instructions given on the product label and 20% of them occasionally reads the instructions that are given on the product label similarly in case of checking the expiry date of the drug before use 54% occasionally check the expiry date before using the drug and 37% of participants always checks the expiry date which shows a moderate mal-practice over the OTC drugs usage There is always a risk of using expired drugs and taking over dosage which can lead to harm or under-dose which will not provide sufficient relief and increase the cost of treatment. The main reason for consuming the OTC drugs majority of participants 39% agreed was whenever they feel sick and 25% of them said that they consume OTC drugs when symptoms are minor/manageable this shows the negative aspect of self medication among the study participants of consuming medications even if it is not necessary to take drugs. Only 12% of participants immediately discard the drug when it

shows change in shape, color and odour and 76% of study participants agreed that they continuously use drug even if it showed any change in shape, color and odour. This shows a low level of awareness regarding the consumption of degraded product. There is always a risk of using expired drugs, sharing them with friends or taking medicine that have been originally prescribed for some other problem. Irrational use of drugs may result in accidental drug poisoning. Over 76% of the study participants consults to pharmacist before using OTC drugs while only 7% consults with the doctor, this may be due to pharmacist are the most easily available health care professionals as compared to the doctors who are usually preoccupied with large number of patients in India because of the large population and low ratio between the doctor and the patient[26]. It also shows high trust in pharmacist by the community. When asked about whether they have experienced any side effects from the use of OTC drugs surprisingly 54% people had not experienced side effects from OTC drugs that maybe because of safe use of drugs regarding the dose by the study participants while on the other hand 36% experienced side effects from OTC drugs.

Although the use of OTC drug is becoming an increasingly important area within healthcare, World Health Organization considers self medication as part of the self care that helps efficient use of the burdened health care system with guidelines for the regulatory assessment of medicinal products for use in self medication. The community should be educated and made aware about the implications of self medication. These study findings are based on a single centre study in North India and hence, the study observations cannot be generalized to whole region.

CONCLUSION: This descriptive cross-sectional study has found that self-medication is very common among urban population, facilitated by the low cost and easy availability of drugs. Since inappropriate self medication has the potential to cause serious harm, not only to themselves but also to those whom they suggest medication. The respondent showed poor knowledge towards self medication. Analgesics and antipyretics were most commonly used drugs. Prevalence of self medication was high in male. This study was limited to single setting. The study will be helpful to provide base line data about prevalence and practice of self medication. It helps to conduct awareness programs about the potential risk of self medication which can help to prevent the harms of OTC medication in regional context. Similar type of study can be conducted in different setting in large scale. Although the self medication practice is unavoidable; there is great responsibility of drug regulatory authorities and health care professional about the control of unsafe self-medication practices.

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