Original Research Article

Knowledge and Practices of over the Counter (OTC) drugs among rural Population

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Abstract

Background: The main aim of the study was to assess the knowledge, attitude and practices of OTC drugs among rural population as well as which indications OTC drugs are used most of the time. **Materials and methods:** A cross-sectional study was carried out over a period of four months (February 2018 to May 2018) in Pawapuri, Nalanda, Bihar, India using a self administered pre-validated questionnaire set which was prepared based on previous studies to collect 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. **Results:** Among 70 study participants 69% knew about the OTC drugs. On an average 7 times in last one year they practiced self-medication and used OTC drugs. It was seen that reasons for taking OTC drugs were various majority of them 93 % people take it due to their low cost. Analgesics and antipyretics were the most common class of drugs self –medicated by the majority of the participants 100%, followed by Antacids 81%. Pain and fever were the most frequently reported indications for use of OTC drugs headache, were the second and third most common indications were cough & cold, While considering the attitude and practices of self-medication it was found that a majority of study participants occasionally 36% read the instructions given on the product label. In case of checking the expiry date of the drug before use 39% always check the expiry date before using the drug and 30% of participants never checks the expiry date. The main reason for consuming the OTC drugs majority of participants 91% agreed was whenever they feel sick. A majority of participants 61% immediately discard the drug when it shows change in shape, color and odour. Over 74% of the study participants consult to pharmacist before using OTC drugs. **Conclusion:** This cross-sectional study has found that use of OTC drugs is very common among rural population, facilitated by easy availability of drugs. A significant number of people are unaware of the side effects of the medication that they themselves take and suggest to others. It is important to create awareness about harmful effects of OTC drugs among rural population and prevent untoward consequences.

Keywords: Over the counter drugs, Self medication, OTC drugs, Practices, Rural population.

Introduction

Globally the habit and practice of self-medication practice is very aged, with substantial sway in developing countries. This self medication is defined as- utilization of medicinal products by the individuals to take care of self-recognized disorders or symptoms or continuous use of a medication prescribed by a physician for like India [1].

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World health organization (WHO,2000) describes the concept of self- medication as- acquiring medicines without a valid prescription, presenting old prescriptions to purchase medicines, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home [2]. Self-medication thus becomes a very important part of self-care by medication. This may be defined as the first gained health resource for population in the health care organization. This comprises of self- medication, non-therapeutic self-treatment, social hold up in illness, and first aid in day-to-day life (WHO, 2000). The malfunctioning of the pharmaceutical regulatory

mechanism in countries like India has an added effect to oversupply and easy access to various drugs including those bearing little evidence for their safe use [3]. An another factor potentiating misuse and overuse of drugs in India comprises of poor group of people and lack of literacy. This misuse and overuse of drugs not only results in poor-health and antibiotic resistance but also endangerrs life of the community[4]. These medicines of self- medication are also termed as Non-Prescription Drugs or Over the Counter (OTC) Drugs and are almost easily available at the pharmacies without a valid doctor's prescription [5]. Self-medication without a valid prescription is seldom referred to as 'responsible' self-medication to differentiate it from the habit of buying and using a prescription medicine without a valid doctors' prescription [6]. Self- medication offers a cost effective alternative to the clinical services for those cannot afford the high consultation fee. If practiced rightfully, self-medication could reduce the demand on doctors and increase health awareness amongst people. However, if mistreated, this may mislead exact diagnosis and right treatment, and could also cause toxicity, harmful effects, drug reaction and untoward expenditure [7]. With the developing socio-economic status, people now are keener to accept personal responsibility for their health status and also are aware about the need of precise information possibly from reliable professional sources in order to take accurate and timely decisions for their health.

In addition, pharmacists also have a very important role in giving assistance, proper advice and information about medicines available for self-medication. Moreover, the internet today is available as a key source of gathering information on health related issues and also offers great assurance in helping people with self-care. The nature of self-medication and is extent as well as the reasons for its practice may vary from one geographical area to the other. There is, therefore, a need to know knowledge, attitude and practices of over the counter (OTC) medicines among rural population to devise 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 rural population which the current study aimed to generate. The objective of present studywas:

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 (February 2018 to May 2018) at Department of Pharmacology, Vardhman Institute of Medical Sciences, Pawapuri, 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 70 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 70 study participants 48 people (69%) knew about the OTC drugs. On an average 7 times in last one year they practiced self-medication and used OTC drugs. It was seen that reasons for taking OTC drugs were various majority of them 93 % people take it due to their low cost. Surprisingly the time saving reason was found to be 0% among study participants (Table 1).

Table 1:Reasons for taking OTC drugs

Low cost	93 %
Easy accessibility	54 %
Safe and well tolerable	31 %
Time saving	0 %

Pain and fever were the most frequently reported indications for use of OTC drugs headache, were the second and third most common indications were cough & cold, with a frequency 70(100%), 70(100%), 67(96%), 39(56%) respectively. Other indications for self medication included vomiting and stomach pain 3(4%), Constipation 2(3%), skin problem, indigestion and minor cuts 1(1%) (Table 2).

Table 2 : Indications for using OTC drugs

Pain	70(100)
Fever	70(100)
Headache	67(96)
Cough and cold	39(56)
Vomiting	3(4)
Stomach pain	3(4)
Constipation	2(3)
Skin problem	1(1)
Indigestion	1(1)
Minor cuts	1(1)

Analgesics and antipyretics were the most common class of drugs self –medicated by the majority of the participants (100%), followed by Antacids (81%). It was also observed that 59% of the participants reported to have self-medicated themselves with Vitamins and cough/cold preparations followed by Antibiotics (46%) (Table 3).

Table 3:Types of drugs used for self-medication among rural population

Analgesics	100 %
Antipyretic	100 %
Antacid	81 %
Cough and cold	59 %
Vitamins	59 %
Antibiotics	46 %
Topical	39 %
Anti- inflammatory	4 %
Antiemetic	4 %
Ophthalmic	0 %

While considering the attitude and practices of self-medication it was found that a majority of study participants occasionally 25(36%) read the instructions given on the product label and over 21 (30%) of them never reads the instructions that are given on the product label. In case of checking the expiry date of the drug before use 27(39%) always check the expiry date before using the drug and 21(30%) of participants never checks the expiry date. The main reason for consuming the OTC drugs majority of participants 64(91%) agreed was whenever they feel sick and only handful 6(9%) of them said that they consume OTC drugs when symptoms are minor/manageable. Surprisingly a large number of participants over 66(94%) not ever takes OTC drugs more than the recommended dose only a minor number 4(6%) agreed that they takes OTC drugs more than the recommended dose.

A majority of participants 43 (61%) immediately discard the drug when it shows change in shape, color and odour. Over 52 (74%) of the study participants consults to pharmacist before using OTC drugs while only 18(26%) consults with the doctor. When asked about whether they have experienced any side effects from the use of OTC drugs surprisingly (70)100% people had not experienced side effects from OTC drugs. 69% know about the OTC drugs and reluctant use of OTC drugs are harmful, but majority use them. (Table -4).

Table 4:Attitude and Practices among rural population regarding self medication of OTC drugs

Read the instructions on drugs label before use	
Occasionally	25(36)
Always	24(34)
Never	21(30)
Check the expiry date before use	
Always	27(39)

Occasionally	22(31)
Never	21(30)
When you consume OTC drugs	
Whenever I feel sick	64(91)
When symptoms are minor/manageable	6(9)
Ever take OTC drugs more than recommended dose	
No	66(94)
Yes	4(6)
When OTC drugs show change in shape, color and odour.	
Immediately discard the drugs	43(61)
Continue use till it expires	27(39)
Consultant before using OTC drugs	
Pharmacist	52(74)
Doctor	18(26)

Details are shown in table 2 below. Out pharmacy was the major source for receiving OTC drugs 80% people received OTC drugs from out pharmacy and 20% from hospital pharmacy.

Discussion

We acknowledge the response of the participants. The type of study where self governed questionnaire is given, the result greatly dependent upon response given by participants. If high level of response is given, the results woul d closely resemble the behavior and mental status of the population. This study has shown that habit and practice of self medication of OTC drugs is exceedingly rampant amongst rural population.The present study found, out of the 70 persons who responded our questionnaire study, 98.56 percent has used one or many OTC drug in last one year. This study result is similar to the previous study of Ahmad et al., 2015 and Verma, et al., 2010 consucted on North Indian population. Our study also indicated the key reason for self medication, which most commonly included low cost, easy accessibility, safe and well tolerable in the decreasing percentage 93%, 54%, and 31% respectively. This was in consonance with the previous study carried globally by Abay & Amelo, 2010; Ahmad et al., 2015; Belachew Gutema et al., 2011; Khalil, 2016; Kumar et al., 2013; Yu et al., 2014. In our study, the most common type of drugs self- medicated by mass population was Antipyretics and Analgesics. This observation was similar to the earlier studies in this series in India, Egypt and Ethiopia [8-14]. The most common indication for self-medication of OTC drugs in the present study was Pain and pyrexia, which was similar to observations of Kayalvizhi & Senapathi (2010) on Tamil Nadu population. In Ethiopia also fever remained the most common symptom for self-medication [15].The Cough & cold medications together with vitamins were more consumed than Antibiotics by our study respondents in our study. The percentage of OTC drug consumption was comparatively greater in our results compared to other studies from India [16,17]. The use of antibiotics for self-medication is almost comparative, similar, and higher in developing countries [18-20]. The markedly greater use of antibiotic for self medication may lead antibiotic resistance and serious illness. This antibiotic resistance is a major concern now a days. The assessment of attitude and practices of OTC drugs for self-medication it was obvious that the instructions printed on the product label is read by very low percent age of population, a nd this is below 50 percent. About one third user never reads the instructions. Similar is the interest towards checking the expiry date of the drug. 39% people always checked the expiry date of the drug before using it and 30% of participants did not bothered to checks the expiry date of the drug. This increases the mal-practice over the OTC drugs. Not being aware about the dose and the expiry date may unknowingly put us at the risk of drug over dosage which is quite harmful.The current study also tried to unearth the prime reason for consuming the OTC drugs. It was found that, a majority of participants uses OTC self medication whenever they feel sick, while less than 10 percent used this for minor and/or manageable symptoms. This shows a bad practice of over jealous use drugs for unnecessary reasons in majority of times. 61% respondents reported a habit of immediately discarding the drug as soon a change in shape, color and odour is noticed. This reveals the level of alertness towards use of degraded product. Three fourth of our study responders reported to consult a pharmacist, while only

one forth visited a doctor before using OTC drugs. The most possible reason for this may be- firstly the easy availability of the pharmacist compared to doctors, secondly the consultation fee associated with visiting a doctor and thirdly low ratio between the doctor and the patient (World Health Organization, 2007). The current study surprisingly found 100% satisfaction with no side effects regarding the questionnaire of - experienced any side effects from the use of OTC drugs? This may be due to safe use and proper storage of drugs by the population. Although 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 recent trend is to expand the list of OTC medicines and to increase the availability of controlled drugs; this will give more liberty and choice to the people to take informed treatment decisions.

Conclusion

This cross-sectional study has found that use of OTC drugs is very common among rural population, facilitated by easy availability of drugs. A significant number of people are unaware of the side effects of the medication that they themselves take and suggest to others. It is important to create awareness about harmful effects of OTC drugs among rural population and prevent untoward consequences.

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