Research Article

Knowledge, Attitude and Practices of over the Counter (OTC) Medicines among rural Population - A Cross Sectional Study

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https://doi.org/10.31024/ajpp.2018.4.2.21

Received: 16 February 2018 Revised: 21 March 2018 Accepted: 24 March 2018

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 (November 2017 to February 2018) in Moga, Punjab, 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

The history of self-medication practice is very old from global viewpoint, with considerable influence in developing countries like India (Ahmad et al., 2015). According to World health organization the concept of self- medication involves the 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 chronic or recurring diseases or symptoms (WHO,2000). 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 leftover medicines stored at home (Loyola et al., 2004). Self-medication thus forms a vital 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

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illness, and first aid in everyday life (WHO, 2000). 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 bear their safe use (Lives, 2012). This, combined with poor community literacy about medication safety and usage, potentiates misuse and overuse of medications in India. This, in turn, can contribute to ill-health, public health predicaments such as antibiotic resistance and further impoverishment of the community (Porter & Grills, 2016). Medicines for self- medication are often called Non-Prescription or Over the Counter (OTC) and are available without a doctor's prescription through pharmacies (Khalil, 2016). 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 (Belachew Gutema et al., 2011). Self- medication provides a lower cost-alternative for people who cannot afford the cost of clinical services. If used suitably, self-medication could lessen the demand on doctors and make people more health conscious. However, if abused, it could delay accurate diagnosis and appropriate treatment, and could cause toxicity, side-effects, drug interaction and unnecessary expenditure (Sarahroodi et al., 2010). Nowadays people are enthusiastic to accept more personal responsibility for their health status and to obtain as much sound information as possible from professional sources in order to help them make appropriate decisions in health care. Pharmacists have a key role to play in providing them with assistance, advice and information about medicines available for self-medication. Moreover, the internet is emerging as a main source of information on health issues and (with appropriate control) offers great pledge in helping people with self-care. 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 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 study was:

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 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 (Figure 1).

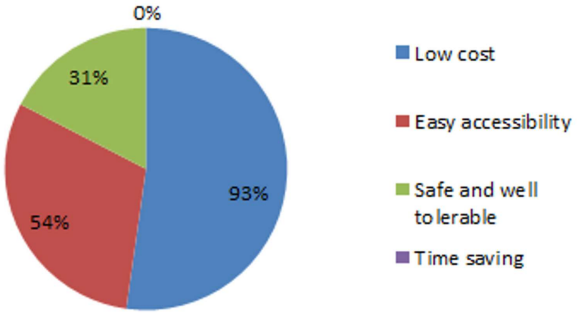

Figure 1. Reasons for taking OTC drugs

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 1).

Analgesics and antipyretics were the most common class of

Table 1. Indications for using OTC drugs

Indications for using OTC drugs	Frequency (N=70) Percent
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)

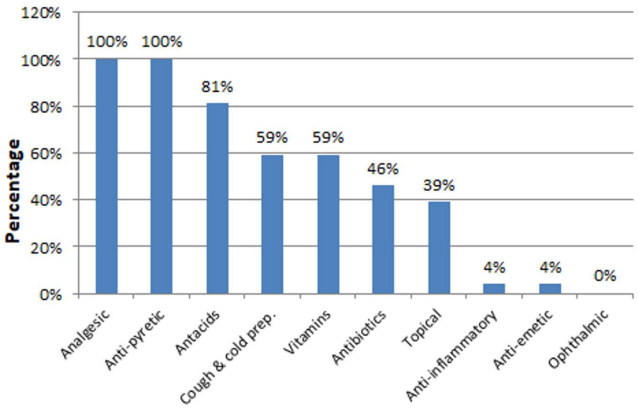

Figure 2. Types of drugs used for self-medication among rural population

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%) (Figure 2).

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.

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 (Figure 3).

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

Read the instructions on drugs label before use	Frequency(N=70) Percent
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)

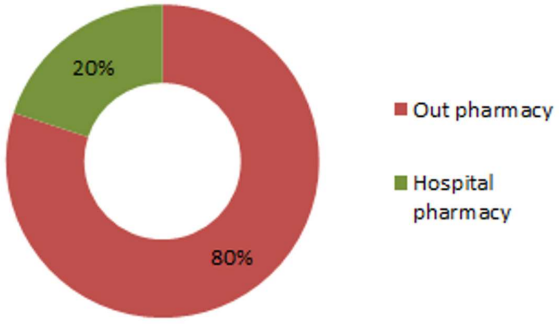

Figure 3. Source for receiving OTC drugs

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 rural population in North India. This study has shown that self medication of OTC drugs is highly prevalent among rural population. In our study it was found that among 70 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 (Ahmad et al., 2015; Verma, et al., 2010) .Our study denoted that the most common reasons for self medication were low cost 93%, easy accessibility 54%, safe and well tolerable 31% which was also reported in similar studies which were conducted in other parts of the country and world (Abay & Amelo, 2010; Ahmad et al., 2015; Belachew Gutema et al., 2011; Khalil, 2016; Kumar et al., 2013; Yu et al., 2014).

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 (Abay & Amelo, 2010; Abebe et al., 2017; El Ezz & Ez-Elarab, 2011; Kumar et al., 2013). 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 (Kayalvizhi & Senapathi, 2010). A study from Ethiopia (Abay & Amelo, 2010) also reported fever as the most common symptom for self-medication. Cough & cold preparations along with vitamins 56% were more consumed by our study participants than Antibiotics which were self-medicated by 49% of the study participants in our study. Our results are higher than that reported in other studies from India (Banerjee & Bhadury, 2012; Kumar et al., 2013; Sontakke et al., 2011). The antibiotic use for self-medication was reportedly similar, and higher in studies from developing countries (El-Ezz & Ez-Elarab, 2011; Fadare & Tamuno, 2011; Olayemi et al., 2010; Sarahroodi et al., 2010). 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 36% occasionally read the instructions given on the product label and over one third of their 30% of them never reads the instructions that are given on the product label similarly 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 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. The main reason for consuming the OTC drugs majority of participants 91% agreed was whenever they feel sick and only handful 9% 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. A majority of participants 61% immediately discard the drug when it shows change in shape, color and odour. This shows the level of awareness regarding the consumption of degraded product. Over 74% of the study participants consults to pharmacist before using OTC drugs while only 26% 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 (World Health Organization, 2007) When asked about whether they have experienced any side effects from the use of OTC drugs surprisingly 100% people had not experienced side effects from OTC drugs that maybe because of safe use of drugs regarding the dose and proper storage by the study participants. 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.

Conflicts of interest: None

Acknowledgement

We thank our Director cum principal Dr. G D Gupta for supporting our research work.

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