

A Study on the Dispensing Pattern of Over the Counter Drugs in Retail Pharmacies in Sarjapur Area, East Bangalore

MANJUSHREE NAGARAJ¹, ANANYA CHAKRABORTY², B.N SRINIVAS³

ABSTRACT

Background: Over the counter drugs (OTC) are sold without the prescription of a registered medical practitioner. There are reports that OTC drug market in India is on the rise. This is attributed to the rising cost of health care, difficulty in accessing healthcare, and an alarming tendency to self manage symptoms. The outcome of this is OTC related adverse effects, abuse, and hospitalizations. Literature on OTC is sparse. Hence this study was undertaken to evaluate the dispensing pattern of OTC drugs in retail pharmacies in Sarjapur area, East Bangalore.

Materials and Methods: The study was conducted in 3 retail pharmacies in Sarjapur area, Bangalore East. The duration of the study was for a period of 10 days from August 1st to August 10th 2014. The common complaints for which the patients frequented the pharmacies were observed and recorded. The investigator personally interviewed the patients between 6pm to 9pm, near the respective pharmacies. During this study period around 216 patients visited pharmacies without prescription. The drugs supplied to 216 patients by private pharmacies without

prescription was recorded. Data was analysed by descriptive statistics using Microsoft Excel.

Results and Observations: Most commonly dispensed OTC drugs were analgesics (26.8%). The other categories of medications dispensed were antihistamines (15.2%), antacids (14.8%), antibiotics (10%), antipyretics (7.8%), Oral contraceptive (OC pills) (5.09%) and others (20%). The commonly dispensed antibiotics were Cefadroxil (250mg) for dental infection and Levofloxacin (500mg) for upper respiratory tract infection. The most common complaint for the use of OTC drugs was pain (25%). It was noted that 55.09% of the dispensed drugs belonged to schedule H. However, 13% patients were aware regarding the harmful effects of drugs.

Conclusion: The use of OTC drugs is alarmingly high in Bangalore East. Pharmacists have to be trained and educated regarding rationale dispensing of drugs. The need for promoting the appropriate use of drugs in the Indian health care system is important. This can be achieved through educational, regulatory and managerial strategies.

Keywords: Analgesics, Pharmacists, Schedule H

INTRODUCTION

Over the counter drug (OTC) means a drug that is sold without prescription of a registered medical practitioner. They are also known as non prescription medicines. The use of OTC medications has been reported to be on the rise internationally. The OTC drug market in India currently ranks 11th in the global OTC market. This trend is increasing and is expected to reach 9th position within next 5 years. Since Indian patients have a huge tendency of self treatment, the Indian market is characterized by a huge demand for OTC drugs. In India, though the OTC phrase has no legal recognition, all the drugs that are not included in the list of prescription drugs are considered as non prescription drugs. Prescription drugs are those that fall under two schedules of the drug and cosmetic rules 1945: schedule H and schedule X. Schedule H and X are drugs which can be sold only on the prescription of a registered medical practitioner. This legal requirement is made to prevent self medication of drugs [1]. Self medication with OTC analgesics such as paracetamol among children and adolescents is increasing. This constitutes an important public health concern. Various studies have shown that the use of OTC drugs is twice as common as that of prescribed medication. Also, it has been observed that self medication is often used along with prescribed medication [2].

OTC medication offers advantages like easy access to medicines, self management of minor ailments with the involvement of pharmacists, and utilization of available resources. However it is not always safe and has been associated with negative health consequences [3]. Exposure to OTC Ibuprofen and other OTC non-steroidal anti-inflammatory drugs is substantial and leads to

increased risk of gastrointestinal bleeding. OTC related adverse effects are predominantly gastrointestinal complaints, allergic reaction, psychosis, tachycardia, seizures dizziness leading to increase in the number of hospital admissions [4]. There are reports that Phenylpropanolamine (PPA) is the major ingredient in more than 70 over the counter preparations. PPA has been recently associated with neurological manifestations including psychosis, seizures and intracerebral haematoma. OTC related emergency room visits increased by 70% from 2004 to 2008 [5]. Published literature mentions that the mean age for the purchase of OTC drugs in India is 32.7 years with female preponderance [1]. In India, OTC related adverse effects, abuse, and hospitalizations are on the rise. Hence, this study was undertaken to evaluate the dispensing pattern of over the counter drugs in retail pharmacies in Sarjapur area, East Bangalore.

OBJECTIVES OF THE STUDY

To study the:

1. Drug dispensing pattern of pharmacies without prescription
2. Commonly reported illness for the use of OTC drugs
3. Knowledge about the use of OTC drugs by patients.

MATERIALS AND METHODS

The study was conducted in 3 retail pharmacies in Sarjapur area East, Bangalore, India. It was conducted for a period of 10 days from August 1st 2014 to August 10th 2014. Patients were interviewed by the investigator using a structured questionnaire between 6pm - 9 pm in the respective pharmacies. The questions

included the demographic details, patient complaints, instructions given by the pharmacists, awareness about the adverse effects, and contraindications of the dispensed drugs. Data was analysed by descriptive statistics using Microsoft Excel.

RESULTS

Demography: A total of 216 patients frequented the pharmacies during the study hours without prescription. Out of 216 patients, 70.83% were males, and 28.2% were females. Out of them, adults were (84.25%), elderly (12%), paediatrics (2.3%), and adolescents (1.3%). Results are shown in [Table/Fig-1,2].

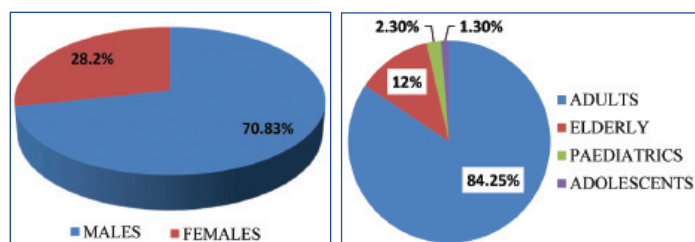
The most commonly dispensed OTC Drugs: The most commonly dispensed OTC drugs were analgesics (26.8%). Out of them, NSAIDs were the most commonly dispensed drugs. The other categories of medications dispensed were antihistamines (15.2%), antacids (14.8%), antibiotics (10%), antipyretics (7.8%), OC pills (5.09%), and miscellaneous (20%). Out of antihistamines, antacids, and antibiotics; cetrizine, ranitidine, cefadroxil (250mg) for dental infection and levofloxacin (500mg) for respiratory tract infection were the most commonly dispensed drugs. It was noted that 55.09% of the dispensed drugs belonged to schedule H. The results are shown in [Table/Fig-3].

The most common complaints for the use of OTC drugs: The most common complaint for the use of OTC drugs was pain (26.80%). The other complaints were respiratory infections (24.50%), GIT problems (22.22%), gynaecological problems (5.00%), headache (6.01%), dermatological problems (5.09%), and others (10.18%). Results are shown in [Table/Fig-4]. Fixed dose combinations dispensed: Sixty six percent of the drugs dispensed were fixed dose combinations. The commonly dispensed fixed dose combinations are depicted in [Table/Fig-5, 6].

Knowledge regarding the purchase of OTC drugs: The knowledge about adverse effects of drugs was found only in 13% of the patients. The percentage of patients who were not aware of contraindications or undesirable effects of the drugs was 77%. Nearly 85% of patients considered the information gained from the pharmacists to be sufficient.

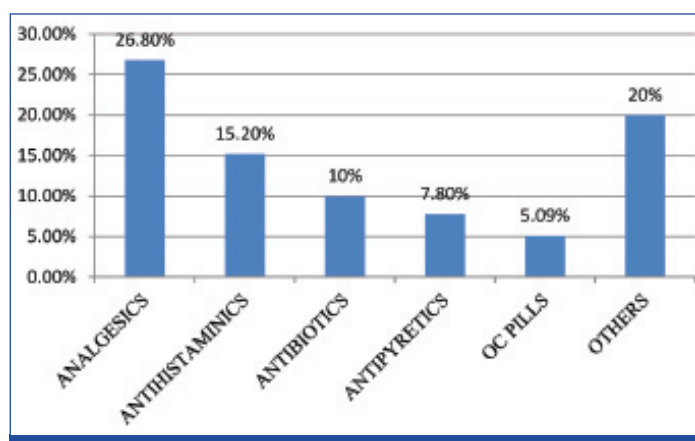
DISCUSSION

OTC drugs are the drugs which can be dispensed without the

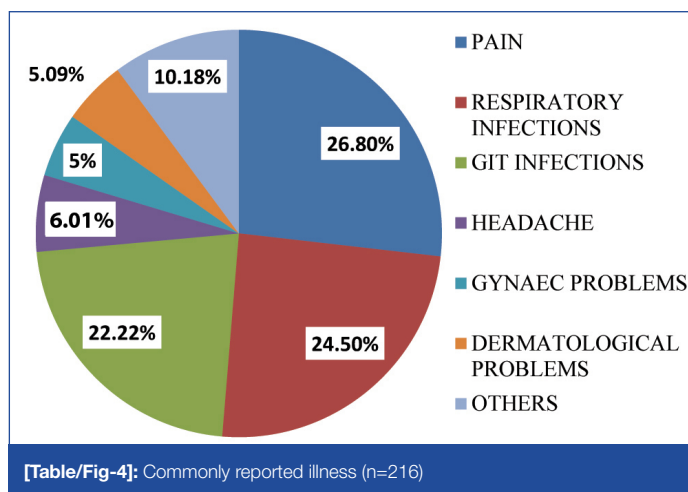


[Table/Fig-1]: Gender wise distribution (n=216)

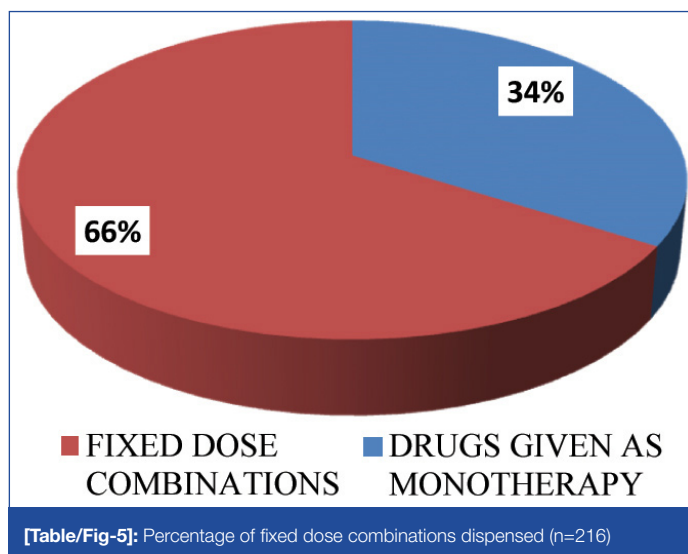
[Table/Fig-2]: Age wise distribution (n=216)



[Table/Fig-3]: Categories of medications dispensed (n=216)



[Table/Fig-4]: Commonly reported illness (n=216)



[Table/Fig-5]: Percentage of fixed dose combinations dispensed (n=216)

Nimesulide + Paracetamol (5.09%)
Aceclofenac + Paracetamol (9.25%)
Diclofenac + Paracetamol (10.64%)
Chlopheniramine maleate + Paracetamol (4.62%)
Aceclofenac + Paracetamol + Tizanidine (2.7%)
Omeprazole + Domperidone (2.31%)

[Table/Fig-6]: Commonly dispensed fixed dose combinations (n=216) illness

prescription of a registered medical practitioner. A study done by Gazibara TD et al., showed that analgesics were the most commonly dispensed OTC drugs [6].

In this study also, the most commonly dispensed OTC drugs were analgesics of which NSAIDs were the commonest. The other categories of drugs dispensed were antihistamines, antacids, antibiotics, antipyretics and miscellaneous. The most common illness for the purchase of OTC drugs was pain which included dental pain, myalgia and body pains. OC pills were also dispensed for the postponement of menstrual cycles. Other illness were headache, gastro intestinal problems like diarrhoea, constipation, respiratory illness like cough, fever which is similar to the previous study conducted by Bertoldi AD et al., [3]. A previous study conducted by Ngado TT et al., showed that frequent reported reason for buying antibiotic was cough in urban setting and fever in the rural setting [7]. In this study, antibiotics were mainly dispensed for fever, cough and dental infection. In previous studies Ceftriaxone, Amoxicillin and Co amoxiclav were most commonly dispensed antibiotics and prescription was given for 3-7 days duration [8]. In this study levofloxacin was most commonly dispensed antibiotic and the duration of prescription was only for 1-2 days. A study conducted by Shrotri R et al., showed that OTC drugs were commonly purchased

by females of mean age, 37.4 years [1]. In this study, there was male preponderance (70.83%) and mean age was 42 years. This difference may be due to the fact that the study was conducted in a small area. There might be a male preponderance in that area. The distinct feature of this study was that 55.09% of the drugs belonged to Schedule H category which was not supposed to be dispensed over the counter. Thirty-four percent of the drugs were dispensed in fixed dose combinations (FDC) and the most common FDC were diclofenac and paracetamol. The other findings from this study were that drugs were dispensed appropriate to the disease condition. The alarming observation was that the pharmacists did not ask about drug allergy and the existing co-morbid conditions while dispensing the OTC drugs. Appropriate instructions were not given to all patients and adverse effects of the drugs were not explained. Drugs were not dispensed according to the appropriate dosage regimen.

LIMITATION

The limitations of this study are its short duration and that socio economic and educational status of participants were not taken into consideration.

CONCLUSION

The most commonly dispensed OTC drugs were analgesics. Most of the patients were not aware of the contraindications or undesirable effects of the dispensed drugs. It was noted that majority of the

dispensed drugs belonged to schedule H. It can thus be concluded from the study that more awareness of patients and pharmacists about OTC drugs are required to prevent the harmful effects of the same. This could be attained through the effective use of mass media and regular training of pharmacists. Also, drug regulatory authorities should strictly enforce laws pertaining to drug dispensing.

REFERENCES

- [1] Shroti R, Nayak N, Mithun Singh Rajput. A study on over the counter drugs in retail pharmacies in Indore city. *Der Pharmacies Lettre*. 2011;3(3):133-38.
- [2] Jensen JF, Gottshaw M, Siersma VD. Association of maternal self medication and over the counter Analgesics for children. *Paediatrics*. 2014;133(2):291-98.
- [3] Bertoldi AD, Camargo AC, Silveira MP, Menezes AM, Asscencao MC, Goncalves H, et al. Self medication among adolescents aged 18 years: the 1993 pelotas (Brazil) Birth cohort study. *J Adolesc Health*. 2014;55(2):175-81.
- [4] Bentosch EG, Koester S, Martin AM. Intentional misuse of over the counter medication, mental Health and Polysubstance use in young adults. *J community Health*. 2014;39(4):688-95.
- [5] Glick R, Hoying J, Cerullo I, Perlman S. Phenylephrine: an over the counter drug causing central nervous system vasculitis and intracerebral haemorrhage. *Neurosurgery*. 1987;20(6):969-74.
- [6] Gazibara T, Nurkovic S, Kistic-Tepavcevic D, kurtagic I, kovacevic N. Pharmacotherapy and over the counter drug use among elderly in Belgrade, Serbia. *Geriatr Neurs*. 2013;34(6):486-90.
- [7] Nga do TT, Chuc NT, Hoa NP, Nguyen NT, Loan HT, Toan TK, et al. Antibiotic sales in rural and urban pharmacies in northern Vietnam: an observational study. *BMC Pharmacol Toxicol*. 2014;15(1):6.
- [8] Abasaheed AE, Abuelkhair MA, Andrajati R, Elnour AA. A comparative study between prescribed and over the counter antibiotics. *Saud Med J*. 2013;34(10):1048-54.

PARTICULARS OF CONTRIBUTORS:

1. Post Graduate Student, Department of Pharmacology, Vydehi Institute of Medical Sciences and Research Centre, India.
2. Professor, Department of Pharmacology, Vydehi Institute of Medical Sciences and Research Centre, India.
3. Professor and Head of the Department, Department of Pharmacology, Vydehi Institute of Medical Sciences and Research Centre, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Manjushree Nagaraj,
Post Graduate Student, Department of Pharmacology, Vydehi Institute of Medical Sciences and Research Centre, India.
E-mail: manjubmch@gmail.com

Date of Submission: **Jan 09, 2015**

Date of Peer Review: **Apr 14, 2015**

Date of Acceptance: **Apr 23, 2015**

Date of Publishing: **Jun 01, 2015**

FINANCIAL OR OTHER COMPETING INTERESTS: None.