Assessment of Prescribing Trend of Drugs at Out Patient’s Chest Ward of Government Tertiary Care Hospital Situated in Karachi

Maqsood Ahmed Khan1*, Syed Imran Ali1, Shazia Alam1, Rasheeda Fatima1, Sadia S Kashif1, Rabia Bushra2, Farya Zafar2, Huma Ali2, Mudassar Hassan3 and Sarwat Jahan1

1Department of Pharmacy, Ziauddin University, Karachi, Sindh, Pakistan
2Department of Pharmacology, Dow College of pharmacy, Pakistan
3Department of Pharmacology, University of Karachi, Pakistan
4Institute of Pharmacy, Jinnah Sindh Medical University, Pakistan

Abstract

In this present study prescription patterns were assessed at outpatient chest department in a tertiary care Government hospital. A prospective study was conducted at outpatient’s chest department of a tertiary care Government hospital in Karachi. The study was conducted from November 2013 to February 2014. The study sampled the prescriptions randomly. Inclusive criteria were based on those patients suffering from respiratory diseases were included in the study and treatment at outpatient chest department, whereas exclusive criteria were based on patients with other than respiratory diseases were not included in the study. Data was obtained from the prescription of the outpatients and these prescriptions were obtained from the pharmacy of the outpatient pharmacy. Data was analysed statistically by using SPSS version 20. In the present study total 241 patients were included in the study and their prescription containing at least one antibiotics were analysed. About 140 (58.09%) patients were females and 101(41.91%) were males. Out of 600 prescribed drugs, 169 were antibiotics in which mostly prescribed antibiotics group was 84(14% B-Lactam), 135(22.5%) bronchodilator, 89(14.8%) anti-allergy, 115(19.2%) analgesic and 48(8%) were antiulcerant. The drug utilization studies are important tool to sensitize and increases awareness among physicians, which ultimately improves rational prescribing and patient care.

Keywords: Antibiotics; Prescribing pattern; Tertiary care hospital

Introduction

A respiratory tract infection (RTI) is an infectious disease of the upper and lower respiratory tract. Infectious diseases become a significant threat to public health, posing risks to individuals regardless of age, sex, ethnic background, socioeconomic status, or lifestyle [1]. Respiratory tract infections are the predominant cause for most of the health care consultation. Viruses are perhaps the major cause for these infections. The types of Upper Respiratory Tract Infections (URTIs) are: common cold, pharyngitis, otitis media and sinusitis. URTI forms a continuum with lower respiratory tract infection, which is more often associated with bacterial infection.

Wide number of URTIs is caused by viruses that are self-limited [2].

A medicinal professional prescribes the medications demonstrate his or her capacity to choose the quantity of medications that are accessible in the market for that specific ailment and to decide the ones which will be most appropriate for their needs [3,4]. This requires a careful comprehension of different parts of both the infection and the medications by the treating doctor lastly giving the patient protected and solid medications in a cost effective manner. In this manner, rational prescribing of medications assumes a fundamental part in not just effectively treating the illness with minimal adverse effects but also utilizing the resources that are accessible in a developing nation [5].

Antibiotics are among the highly consumed medicines and the most important thing is their rational use. Inappropriate and irrational use of antibiotics is common in practice mainly in countries that lack strict regulation on the use of antibiotics. Another factor for misuse and abuse of antibiotics is illiteracy, ignorance and poverty among the people of resource poor countries [6-8].

Development of antibiotic resistance is an alarming issue due to inappropriate use of antibiotics and it is a serious challenge to the healthcare professionals [9]. At healthcare professional level, the most common problems with antibiotic therapy are their proper selection, dose and duration [10]. Lack of experience also contribute to inappropriate antibiotics prescribing [11,12].

Prescribing pattern studies examines are effective exploratory tools to discover the role of medications in the public eye. In a tertiary care Center, prescribing is relied upon to be prudent, suitable, sheltered, powerful and efficient. A definitive objective is to accomplish normal and powerful therapeutic care, especially in the monetarily developing countries [13].

The pattern of prescribing reflects the physician understanding of the disease process, his knowledge and application of pharmacotherapeutics. Inappropriate prescribing has been identified in many health facilities in developing countries. Different variables influence the prescribing behaviour of the clinicians and it is difficult to alter the behaviour without understanding the reason behind [14].

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*Corresponding author: Maqsood Ahmed Khan, PhD, Department of Pharmacy, Ziauddin University, Karachi, Sindh 74000, Pakistan, Tel: 03412489472, E-mail: maqsoodkhan711@yahoo.com

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In Pakistan only, few studies have been conducted on prescribing pattern of drugs prescribe for the management of respiratory diseases. Considering these facts, the purpose of this research is to analyse the prescribing pattern in respiratory disease patients and analysed the demographic bases of prescribing at a tertiary care hospital.

**Methodology**

**Study design**

This study was a prospective and observational study and was carried out for four months from November 2013 to February 2014. The study site was Chest Out Patient Departments (OPD) of a government tertiary care hospital situated in Karachi Pakistan.

**Sample size and selection**

Over all 1200 prescription were analysed from which a total number of 241 prescriptions were selected containing antibiotic by using convenient sampling. This sample size was exceeded the minimum 100 recommended by WHO [16] was employed in order to enhance the reliability of the results since this study was conducted in single health unit. Inclusive criteria were based on those patients suffering from respiratory diseases were included in the study and treatment at outpatient chest department, whereas exclusive criteria were based on patients with other than respiratory diseases were not included in the study.

**Data collection**

Prescriptions were obtained from the pharmacy of the Outpatient chest word department of the government tertiary care hospital. The drug data such as name of the drug, dosage form, dosing frequency, duration, route of administration and diagnosis data were also noted.

**Data analysis**

For easy sorting, the data obtained were entered into Microsoft Excel 2000 & different parameter related to patients were analysed using SPSS 20 version.

**Ethical approval**

The institutional ethical committee permission was taken to conduct this study from the ethical committee of the university.

**Results**

Results of prescribing pattern at chest ward. (Tables 1-3 and Graphs 1-3).

**Discussion**

Prescription is considered as a reflection of physician’s attitude to the disease and role of the drug in treatment. It highlights the nature of health care delivery system. Little is known about the prescribing behaviour of physicians and the misuse of antibacterial in the management of outpatient [17]. Appropriate diagnosis of a disease & its treatment with medicines prescribing cover important aspect of patient care and improve outcome [13].

![Graph 1: Analysis of number of male and female patients.](image)

The current study provides important information on pattern and type for antimicrobial and other drugs used in outpatient in chest ward outpatient (OPD) in a tertiary care hospital. Over all 1200 prescription analysed from which 241 prescription were selected containing antibiotics and other drugs in the present study the male patients were 101(41.91%) and female patients were 140(58.09%). In the current study female patients’ ratio was higher than the male patients. In this study, the most common presenting complaint were cough and runny nose, similar results were obtained in the study conducted by Khalidi et al. [18].

This study shows the use of many therapeutics groups among adults and elderly. Table 2 shows the age wise categories of patients.

<table>
<thead>
<tr>
<th>Ages in years</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-30</td>
<td>53</td>
<td>22.0</td>
</tr>
<tr>
<td>31-40</td>
<td>55</td>
<td>22.8</td>
</tr>
<tr>
<td>41-50</td>
<td>52</td>
<td>21.6</td>
</tr>
<tr>
<td>51-60</td>
<td>40</td>
<td>16.6</td>
</tr>
<tr>
<td>61-70</td>
<td>16</td>
<td>6.6</td>
</tr>
<tr>
<td>71-80</td>
<td>14</td>
<td>5.8</td>
</tr>
<tr>
<td>≥ 81</td>
<td>11</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>241</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2: Shows age wise categories of the patients included in the study. Age group category of 31-40 years were the most commonly affected age group of patients.

<table>
<thead>
<tr>
<th>Drugs classes</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>β-Lactam</td>
<td>84</td>
<td>14</td>
</tr>
<tr>
<td>Antiprotozoal</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>Quinolones</td>
<td>74</td>
<td>12.3</td>
</tr>
<tr>
<td>Macrolides</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Cephalosporin 1st generation</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Anti-allergy</td>
<td>89</td>
<td>14.8</td>
</tr>
<tr>
<td>Bronchodilator</td>
<td>135</td>
<td>22.5</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>13</td>
<td>2.2</td>
</tr>
<tr>
<td>Antilucre</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>Anfisemetic</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Hormonal preparation</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Antituberculosis medicine</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>Blood coagulants</td>
<td>5</td>
<td>0.8</td>
</tr>
<tr>
<td>Analgesics/Anti-inflammatory</td>
<td>115</td>
<td>19.2</td>
</tr>
<tr>
<td>Antihypertensive/Anti angina</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>others</td>
<td>22</td>
<td>3.7</td>
</tr>
<tr>
<td>total</td>
<td>600</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3: shows that Out of 600 prescribed drugs, 169 were antibiotics in which mostly prescribed antibiotics group was 84 (14% B-Lactam), 135 (22.5%) bronchodilator, 89 (14.8%) anti-allergy, 115 (19.2%) Analgesics and 48(8%) Antilucrent.

![Table 1: Shows that in the present study total 241 patients were included in the study and their prescription containing at least one antibiotics were analyzed. About (140) 58.09% patients were females and 101(41.91%) were males.](image)
In present study 51.61% oral, 31.62% injectable and 16.75% inhalational drugs were prescribed, while in another study 86% drugs were prescribed by oral and 14% by nasal route [7].

There have been many forms of interventions aimed at changing physicians’ prescribing behaviour. These have included audit studies, group discussion and feedback, introduction of general practice drug formulary or hospital formulary, guidelines for antibiotics and Non-Steroidal Anti-inflammatory Drugs. Information of rational prescribing should be promoted and circulated at national and local medical meetings and the input from local practitioners should be considered. It is recommended to enhance doctors’ awareness of the lack of proven benefits and the definite high cost and side effects of many prescriptions for self-limiting illness.

**Conclusion**

In conclusion, this study has clarified the prescribing pattern for Respiratory tract infection in a section of the Karachi population. Prescribing antibiotics and other medications for RTI is still high and needs rationalization. Training on and implementation of the national protocol for diagnosis and treatment of protocol for the management of RTI among adults is suggested. Further studies to explore the knowledge, skills and attitudes of physicians towards prescribing for RTI are needed.

### References


