Prescribing pattern and Drug indicators in Patients Visited by General Practitioners and Specialists in Ardabil City of Iran

FIROUZ AMANI1*, AFSHIN SHAKER2, SOLTAN MOHAMAD SADEGH MOHAMADZADEH3

ABSTRACT

Drugs are an important and strategic commodity and a basic need of the people in all countries. The aim of this study is to determine the drug use patterns and descriptive analysis of prescriptions of doctors in Ardabil city of Iran. A retrospective study was carried out on 2000 randomly-selected prescriptions. Data were obtained on demographics, prescribing indexes and analyzed by descriptive statistical methods by SPSS software. Of the 2000 prescriptions, 822 (41%) and 1178 (59%) were for men and women, respectively, by a female to male ratio of 1:0.69. The mean age of the patients was 31.6 ± 21.3 years, ranging from one to 91. 1306 (65.3%) of all prescriptions were for general practitioners and the rest for specialists. The average number of drugs per prescription was 3.58 ± 1.3, ranging from 1 to 9 drugs. Dexamethasone (219, 24.7%) was the most frequently prescribed medicine. Results demonstrated that the average number of drugs per prescription and the rate of prescribing injectable drugs were more than world standards and it is necessary to reduce these indexes and irrational use of drugs through interfering with patients' belief and physicians' attitudes.

Keywords: Medicine, Utilization, Pattern, Ardabil, Iran
and 30% of patients in Europe and the U.S.,
respective, but this number is always more than 50 in
Iran; nevertheless infectious diseases are not a major
health problem in Iran. The irrational use of drugs was 3.57 (SD = 1.3) and females 3.58 (SD = 1.3). In all
self-medication may result in many health problems for
patients, such as increasing the risk of adverse drug
males and females, respectively. Mean of the patients’
reactions, late diagnosis and prolongation of illness,age was 31.6 (SD = 21.3) ranging from 1 to 91 years.
patients’ dissatisfaction, affecting patient-physician
The average number of drugs per prescription, separated
relationship, and finally raising the cost of treatment
by the insurance organization and specialty is presented
According to WHO statistics, Iran is among the 20
most drug-utilizing countries with secondary rank in
ranging from 1 to 9. In Ta’min Ejtemaei organization
Asia after China. Annually, each Iranian person uses 894 prescriptions, midwives and gynecologists had the
339 drugs which is about twice the world standards, maximum and minimum number of drug
leading to spend a large part of health resources for
prescription, respectively. Also, in Khadamat Darnani
procurement of drugs required. Antibiotics are the 4th
organization prescriptions, internists and gynecologists
or 5th most prescribed drugs in Iran. Adding non-
prescription sold antibiotics will move this position
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procurement of drugs required. Antibiotics are the 4th
organization prescriptions, internists and gynecologists
or 5th most prescribed drugs in Iran. Adding non-
per prescription was more than 3 and it is now nearly
one injectable drug, indicating that 44.7% of the
compared to less than two drugs per prescription of
patients had received injectable drugs (Table 2 ). Of all
world average. Drugs are the basis of nearly 75% of
patients ha

### RESULTS

The average number of drugs prescribed for males
was 3.57 (SD = 1.3) and females 3.58 (SD = 1.3). In all
self-medication may result in many health problems for
patients, such as increasing the risk of adverse drug
drugs is allocated for imported drugs. In other words,
more than others, with 59% and 4.9%, respectively.
practitioners and orthopedists, injectable drugs were
corticosteroids, and injectable drugs
published. More than others, with 59% and 4.9%, respectively.
statistics in Iran showed that the rate of drug use growth
Antibiotics, CNS and immune system drugs were the
is higher than world and industrial countries such as the
categories in patients; U.S., U.K., Germany, France and Japan. The aim of this
study is to determine pattern of drug utilization in
patients visited by general practitioners and specialist in
Ardabil, Iran.

### MATERIAls AND METHODS

This is a retrospective cross-sectional descriptive study that has been done on 2000 prescriptions,
randomly selected from all archived prescriptions. The
selection is done by season in each insurance
organization. Information was analyzed by descriptive
statistical methods in SPSS.

### DISCUSSION

Studying Iran’s drug utilization in recent ten years
depicted that the mean growth of drug costs is annually
more than 25%. Ninety percent of subsidization of
drugs is allocated for imported drugs. In other words,
the mean growth of drug costs for the imported drugs is
more than 70%. In Iran, the cost of prescribed
antibiotics is more than 41% of first thirty commonly-

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Table 2. Top 10 prescribed injectable drugs by specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Injectable Drug</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.P.</td>
<td>Dexamethasone</td>
<td>187</td>
<td>65.4%</td>
</tr>
<tr>
<td></td>
<td>Penicillin 6.3</td>
<td>157</td>
<td>54.3%</td>
</tr>
<tr>
<td>Neurologist</td>
<td>Dexamethasone</td>
<td>79</td>
<td>26.9%</td>
</tr>
<tr>
<td></td>
<td>Penicillin 6.3</td>
<td>55</td>
<td>18.8%</td>
</tr>
<tr>
<td>Gynecologist</td>
<td>Metoclopramide</td>
<td>46</td>
<td>15.3%</td>
</tr>
<tr>
<td>Orthopedist</td>
<td>Hysocine</td>
<td>55</td>
<td>18.8%</td>
</tr>
<tr>
<td>Dentist</td>
<td>Ceftriaxone</td>
<td>52</td>
<td>17.7%</td>
</tr>
<tr>
<td>Pediatrician</td>
<td>Penicillin 6.3</td>
<td>44</td>
<td>15%</td>
</tr>
<tr>
<td>Internist</td>
<td>Normal Saline</td>
<td>39</td>
<td>13.4%</td>
</tr>
<tr>
<td>Midwife</td>
<td>Normal Saline</td>
<td>39</td>
<td>13.4%</td>
</tr>
<tr>
<td>Others</td>
<td>Normal Saline</td>
<td>39</td>
<td>13.4%</td>
</tr>
<tr>
<td>Total</td>
<td>Normal Saline</td>
<td>777</td>
<td>65.4%</td>
</tr>
</tbody>
</table>

Table 3. Distribution category of prescribed drugs

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotics</td>
<td>1055</td>
<td>52.8</td>
</tr>
<tr>
<td>CNS Drugs</td>
<td>662</td>
<td>33.1</td>
</tr>
<tr>
<td>Immune System Drugs</td>
<td>609</td>
<td>30.4</td>
</tr>
<tr>
<td>Herbal Drugs</td>
<td>559</td>
<td>28</td>
</tr>
<tr>
<td>Corticosteroids</td>
<td>529</td>
<td>26.4</td>
</tr>
<tr>
<td>GI Drugs</td>
<td>411</td>
<td>20.6</td>
</tr>
<tr>
<td>Respiratory Drugs</td>
<td>401</td>
<td>20</td>
</tr>
<tr>
<td>Antihistamines</td>
<td>381</td>
<td>19</td>
</tr>
<tr>
<td>Topical Drugs (eye/ear)</td>
<td>219</td>
<td>11</td>
</tr>
<tr>
<td>CVS Drugs</td>
<td>128</td>
<td>6.4</td>
</tr>
<tr>
<td>Dermatology Drugs</td>
<td>112</td>
<td>5.6</td>
</tr>
<tr>
<td>Genitourinary Drugs</td>
<td>86</td>
<td>4.3</td>
</tr>
<tr>
<td>Modifiers</td>
<td>83</td>
<td>4.2</td>
</tr>
<tr>
<td>Food Supplements</td>
<td>33</td>
<td>1.6</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>17</td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
<td>219</td>
<td>11</td>
</tr>
</tbody>
</table>

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Acknowledgements

The results represent the irrational use of drugs only by a physician, the incorrect cycle of irrational drug use will not cease. Patient-physician monetary relationship, non-perceptional drug sale, absence of a smart system of controlling drug sale and utilization are secondary effective factors in irrational drug utilization in Iran.
REFERENCES


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