STUDY OF PATTERN OF DRUG USAGE IN AN URBAN AREA

The assessment of drug utilization is important for clinical, educational and pharmacoeconomic purposes. Monitoring of prescriptions and study of drug utilization could identify the associated problems and provide feedback to the prescriber so as to create awareness for the rational use of drugs.\(^1\)

The objective of present study was to assess the current prescribing practices in an urban area with specific emphasis on pattern of drug utilization and economics of prescriptions.

A prospective study was carried out from July 2000 to January 2001 in Karve Nagar, in the Kothrud area of Pune City, which has a population of approximately one lakh. We collected 100 prescriptions each from 10 pharmacy outlets. The collected prescriptions were analyzed for the following indicators as recommended by the World Health Organization (WHO): Average number of drugs per encounter, percentage of drugs prescribed by generic name, percentage of encounters with antibiotics and injection, percentage of drugs prescribed from essential drugs list, average drug cost per encounter, percentage of drug cost spent on antibiotics and injections\(^2\). We also included other parameters like percentage of encounters with fixed-dose combination and multivitamins/tonics prescribed. The cost and other drug information were worked out from the prices given in the Current Index of Medical Specialties (CIMS)\(^3\).

We analyzed 1000 prescriptions for 2706 drugs from consultants, general practitioners and other allopathic practitioners. Out of the total prescriptions, consultants' prescriptions were 562 (56.2%), which was followed by general practitioners 317 (31.7%) and other practitioners 121 (12.1%). The average number of drugs per prescription was 2.7. When compared with data of earlier studies by the WHO, our number appears to be higher than that in other countries excepting Indonesia and Nigeria\(^2\). In the Indian context, the previous two studies showed that on an average each patient received 2.71 and 2.8 drugs\(^4,5\). It is recommended that not more than 2 drugs per prescription should be given for fear of drug interactions\(^5\).

Prescription of generic drugs was conspicuously low (0.75%) because most of the drugs prescribed were proprietary (Table 1). The reasons for such a practice are concern about quality of generic drugs and the possibility of therapeutic inequivalence when a patient is switched from one product (proprietary or other) to the other. In addition, many nonproprietary names are difficult to remember and spell\(^6\).

The number of encounters with antibiotics in the present study was 30% whereas earlier international studies showed 39-48% encounters with antibiotics\(^2\) and 75% in India\(^5\).

We observed that, the prescription of injections increases when the number of drugs per prescription is greater than 4. In India, a higher percentage of prescriptions of injections have been reported\(^6\).

<table>
<thead>
<tr>
<th>No. of drugs per prescription</th>
<th>Total number of prescription</th>
<th>Antibiotics</th>
<th>Essential Drugs</th>
<th>Fixed dose combinations</th>
<th>Generic drugs</th>
<th>Injections</th>
<th>Multivitamins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>177</td>
<td>25.98</td>
<td>37.32</td>
<td>40.50</td>
<td>0.60</td>
<td>2.20</td>
<td>08.47</td>
</tr>
<tr>
<td>2</td>
<td>318</td>
<td>30.50</td>
<td>37.10</td>
<td>38.83</td>
<td>0.70</td>
<td>1.25</td>
<td>22.95</td>
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<tr>
<td>3</td>
<td>263</td>
<td>43.34</td>
<td>42.23</td>
<td>33.96</td>
<td>0.25</td>
<td>2.66</td>
<td>33.46</td>
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<tr>
<td>4</td>
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<td>38.77</td>
<td>43.70</td>
<td>37.24</td>
<td>0.30</td>
<td>2.72</td>
<td>52.38</td>
</tr>
<tr>
<td>5 or &gt;5</td>
<td>95</td>
<td>08.25</td>
<td>41.80</td>
<td>33.62</td>
<td>1.85</td>
<td>3.15</td>
<td>13.60</td>
</tr>
</tbody>
</table>
reduction in number of injections per prescription seen in this study might be deceptive because of the practice of general practitioners giving injections in their clinic and not giving a prescription for the same.

In the present study, the number of essential drugs prescribed per patient encounter was about 40%, which is similar to the study carried out in India\(^5\). Use of essential drugs offer many advantages, including cost, safety and effectiveness. At present, however, doctors are not prescribing them adequately.

The percentage of encounters with fixed dose combinations were more in prescriptions with single drug compared to prescriptions with multiple drugs. The prescription of tonics and vitamins increased with the number of drugs per prescription and contributed to polypharmacy and increased cost.

The total amount spent on 1000 prescriptions was Rs.1,50,671.3. The average cost per prescription was Rs.150.6. The data observed was further analyzed and it was observed that the cost per prescription by consultant was Rs. 199.6, by general practitioners Rs. 91.5 and by other practitioners Rs. 75.2. Considering the purchasing power of an average Indian, spending Rs.75.00 also appears to be on the higher side. It was observed, that many patients opt for purchase of part of a prescription at a time rather than taking all the drugs together.

Further analysis of prescriptions showed that percentage drug cost spent on antibiotics and injections was 13.8% and 2.25% of all prescriptions respectively.

Thus, though there seems to be a trend towards a reduction in the use of antibiotics and injections, other factors like average number of drugs per encounter, use of fixed dose combination and multivitamins, drugs prescribed from essential drug list, cost of prescription and drugs prescribed in generic name have not changed and need corrective steps.

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REFERENCES


