DRUG UTILIZATION AND PRESCRIBING PATTERN IN PAEDIATRIC PATIENTS VISITING SOUTH GUJARAT REGION

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ABSTRACT
Correct diagnosis of a disease and its management with drugs comprise important aspects of patient care which is even much crucial in case of pediatric patients. Hence in support of this it is very important to study the prescribing pattern in pediatric patients in order to find out lacunae, if any, and suggest remedial measures to overcome the same. The present study was undertaken to assess the pattern of prescription and drug utilization in paediatrics by measuring WHO delineated drug use indicators. Total number of prescriptions analyzed for study were 162 and total no of drugs in 162 prescriptions were 528. The male patients were 62.96% where as the female patients were 37.04%. In the present study, on an average 3.26 drugs were prescribed per patient. Drugs were prescribed in different dosage forms. Liquid dosage forms were most commonly prescribed 319 (60.41%), followed by Tablets 192(36.36%). Different categories of drugs were prescribed with Antimicrobials 197(37.31%) were with highest percentage followed by NSAIDs 112(21.21%), antitussive 93(17.61%), antihistamincs 87(16.47%), β-2agonist 11(2.08%) and others 28(5.30%). Among antimicrobials cephalosporine (Cefadroxil – 22.84%, Cefixime – 16.75%, Cephalexin – 6.09%) was prescribed widely. Our study showed on an average drug prescribed per patient was 3.26 which was higher as compared to 1.4 and 2.3 in similar studies from Sweden and Spain. This increases the risk of drug interactions, adversely affect the patient compliance and hike the cost of treatment. On contrary, study showed a remarkable restraint on prescribing antimicrobials and an awareness to avoid antimicrobial resistance.

KEYWORDS: Antimicrobials, Pediatric patients, Prescribing pattern, Polypharmacy, South Gujarat.

INTRODUCTION
Infants and children suffer from frequent but usually non-serious illnesses. Most of those are treated inappropriately with resorting polypharmacy[1]. Drug utilization evaluation is an ongoing and systematic quality improvement process, which is designed to evaluate prescription pattern and/or review of drug use. Inappropriate use of drugs represents a potential hazard to the patients and increases the cost of the treatment[2]. Correct diagnosis of a disease and its management with drugs, comprise important aspects of patient care which is even much crucial in case of pediatric patients. Hence in support of this it is very important to study the prescribing pattern in pediatric...
patients in order to find out lacunae, if any, and suggest remedial measures to overcome the same.

MATERIAL AND METHODS
The present study data was collected from the out patients visiting OPD at clinics located South Gujarat region. Total 162 prescriptions were audited. Patient characteristics such as age, sex and body weight was recorded while all the drugs prescribed were recorded and analyze for the average number of drugs per prescription, number of encounters with antimicrobials, NSAIDs, antihistaminic drugs, antitussive drugs and other agents, dosage form of drugs, frequency of drug administration and duration of therapy.

RESULTS
Total number of prescriptions analyzed for study were 162 and total no of drugs in 162 prescriptions were 528. The male patients were 62.96% where as the female patients were 37.04% (Table No. 1). In the present study, on an average 3.26 drugs were prescribed per patient (Table No. 2). Drugs were prescribed in different dosage forms (Fig.1). Liquid dosage forms were most commonly prescribed 319 (60.41%), followed by Tablets 192(36.36%). Different categories of drugs were prescribed in which Antimicrobials were with highest percentage followed by NSAIDs, antitussive, antihistamics, β-blocker and others (Fig.2). Among antimicrobials cephalosporine (Cefadroxil – 22.84%, Cefixime – 16.75%, Cephalexin – 6.09%) was prescribed widely (Fig. 3).
The use of fluoroquinolones by 7% of total antimicrobials reminds that no quinolones were used by paediatric services because of their toxic effects in children below 14 years of age. Our study showed on an average drug prescribed per patient was higher which increase the risk of drug interactions, adversely affect the patient compliance and hike the cost of treatment. On contrary, study showed a remarkable restraint on prescribing antimicrobials and an awareness to avoid antimicrobial resistance.

Table No. 1 Categorization of prescriptions according to gender

<table>
<thead>
<tr>
<th>GENDER</th>
<th>NO. OF RX*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOYS</td>
<td>102</td>
<td>62.96</td>
</tr>
<tr>
<td>GIRLS</td>
<td>60</td>
<td>37.04</td>
</tr>
</tbody>
</table>

*RX = Prescription
Table No. 2 Categorization of prescriptions according to number of drugs prescribed

<table>
<thead>
<tr>
<th>NO. OF RX*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3 Drugs prescribed</td>
<td>39</td>
</tr>
<tr>
<td>≥3 Drugs prescribed</td>
<td>123</td>
</tr>
<tr>
<td>Total</td>
<td>162</td>
</tr>
</tbody>
</table>

Total number of Drugs prescribed in 162 prescription = 528
Average number of Drugs prescribed = 3.26

*RX = Prescription

DISCUSSION

In the present study, on an average 3.26 drugs were prescribed per patient, which is much higher as compared to 1.4 and 2.3 in similar studies from Sweden and Spain\(^3\). Mirza et al, (2009) \(^4\) found this number to be 3.72 drugs per prescription in their studies. Thus it is evident that the polypharmacy\(^5\) and over prescribing are common in India. Various reasons can account for this situation like lack of self confidence in doctors for diagnosis and treating common disease conditions; unrealistic expectations and demand from the patients to get relieved quickly from the disease condition; availability of non-essential and irrational drug combinations; and aggressive drug promotion and unethical marketing practices of pharmaceutical companies.

Cephalosporins were the top most used class of antibiotics in this study followed by fluoroquinolones. Among cephalosporins, first generation of cefadroxil was found to be mostly used followed third generation cefixime and first generation cephalexin.

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REFERENCES:


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