EVALUATION OF GENERIC AND BRANDED DRUG UTILIZATION PATTERN IN A TRIBAL DISTRICT TEACHING HOSPITAL OF SOUTH INDIA

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ABSTRACT

Background: Generic drugs are relatively cheap and equally effective as branded drugs. Government of Andhra Pradesh is promoting the use of generic drugs in all the districts and planning to open generic outlets in each district. We conducted the study to assess the status of use of generic drugs in a rural cum tribal district of Andhra Pradesh India.

Materials and Methods: Case records of 200 patients analyzed retrospectively for use of generic and branded drugs. Equal cases were selected randomly from medicine, surgery, and gynecology and paediatrics departments.

Result: A total of 952 drugs were used. 37.86% were prescribed by generic name. In general medicine, general surgery, obstetric and gynecology and paediatrics 39.39%, 25.5%, 46.65% and 39.91% over all generic drugs and 52.70%, 28.86, 37.71% and 25.5% generic antimicrobials were used respectively. Ranitidine, Metoclopramide, Pheniramine, Frusemide, Dicyclomine, Nifidepine, Cefixime and Ceftriaxone were 100% prescribed by all the departments with brand names. All the departments prescribed Ampicillin as generic drug only.

Conclusion: Quality controlled generic drugs are equally effective as branded drugs. We suggest that generic drugs are substitution for branded drugs which reduces over all treatment cost.

Keywords: Branded drugs, generic drugs, irrational medication

INTRODUCTION

In this century, increasing cost of drug therapy is a major problem for health care providers and patients in both developed and developing countries. Governments, insurance companies and health care providers are doing lot of efforts to control increased cost but health expenditures are not only increasing in developing countries but also in developed world every year. Apart from many reasons, ageing of the population, growing expectations regarding health by the society as well as the continuous improvement in health care facilities are the important reasons behind it in developed countries while in developing nations there are different reasons. Generic drugs are relatively cheap and equally effective as branded drugs. Because these drugs are launched after expiration of patent of the original innovative drug and companies producing such types of drugs after presenting data which indicates that their launched generic has 80%–125% bioavailability of the original drug. In most of the situations and for the many patients, variations in this range are probably having very less clinical consequences. Thus generic pharmaceutical industry has the strong ability as a major force for shaping the
economics of medication use. It is because generic
drugs have huge potential to play an important role
in containing costs of the drugs in disease
management, although we cannot exactly and
always easily measure the amount which we can
save through the use of generic medications. Use
of generic drugs has increased dramatically during
last few decades and it is widely accepted practice
in health care system. The economic impacts of
generic drug use are much more on both the
direction; in favor of consumers and against the
R&D companies.

In India, pharmaceutical production is grossly
diverse in nature. Lot of pharmaceuticals
companies are manufacturing number of generic
drugs. These drugs are cheap and easily available
in India. Government of Andhra Pradesh is
promoting use of generic drugs in all the districts
and planning to open generic outlets in each
district.

Prescription pattern can be evaluated
retrospectively from clinical records of the
institute or health care facility. Usually the main
aim of such type of studies is to facilitate rational
use of drugs in populations. It is one type of
medical audit which review prescription status
and, if needed prescription pattern can be modified
for cost effective and rational use of medicine.
Such type of studies also assesses the status of use
of generic and branded drugs. In this background
we planned the study to assess the actual status of
use of generic drugs in this region so that suitable
suggestion can be given.

MATERIALS AND METHODS

In this retrospective study case record of 200
patients belonging to general medicine, general
surgery, obstetrics and gynecology and paediatrics
department of Rajiv Gandhi Institute of Medical
Science (RIMS) Adilabad were included. From
each department case record of 50 hospitalized
patients was randomly selected form medical
record section of the institute. All the out patients
record was excluded from the study. Case sheets
were examined and findings related to use of
generic and branded drugs recorded and analyzed

Necessary permission was obtained from the
institutional authorities for the study.

RESULT

A total of 952 drugs were used by all the
departments for the management of 200 different
types of hospitalized patients. Out of 952 drugs
37.86% were prescribed by generic names while
rest of the drugs by brand names. Maximum
number of generic drugs were prescribed by
obstetric and geneecology (46.65%). Paediatrics
and general medicine department used almost
equal number of generic drugs; 39.91% and
39.39% respectively. General surgery department
prescribed mainly branded drugs (74.50%) table-1.

Branched drugs were used most commonly in
antimicrobial category in which all the
departments used more than 50% branded
antimicrobials except general medicine department
in which they used 47.3% branded antimicrobials.
Paediatric department used 74.5% branded drugs
in antimicrobial category and general surgery
department used 71.14% branded antimicrobials
while obstetrics and gynecology department used
62.29% branded drugs (Table-2).

Ranitidine, Metoclopramide, Pheniramine,
Frusemide, Dicyclomine, Nifidepine, Cefixime
and Ceftriaxone were 100% prescribed by all the
departments with brand names only. Ampicillin
was the only drug which was prescribed by all the
departments as generic drug only.

DISCUSSION

Uses of generic drugs become common in United
States in the decade of 1970s. But in those days
many of those generic drugs caused bioavailability
problems. So it is well debated since many years
that whether the generic drugs are equal to
branded drugs or whether these drugs are of good
quality and have fully investigated. There are also
some questions that the bioequivalence studies can
give the sufficient guarantee of efficacy and safety of generic drugs. Generic drugs which are launched only after bioequivalence studies should be sufficient guarantee for clinicians to routinely substitute generic drugs for branded drugs. But narrow therapeutic drugs should be substituted cautiously since the safety and efficacy issue exist with these drugs. FDA firmly believes that generic drug should always be prescribed with the full expectation that the recipient will receive the same clinical benefit as can be with innovator drug.

In our study we observed use of almost 38% generic drugs by the four major departments of the institute. It is much higher in comparison to the observations of Irshaid et al. who observed use of 15% generic drugs in Saudi Arabia. But Guyon AB et al. in Bangladesh at primary health care centre level observed much higher number (78%) of use of generic drugs and Massele AY et al. in Dar es Salaam, Tanzania also found prescription of very high number of generic drugs in all health care facilities which were almost 80% of all prescriptions. In India, Ravi Shankar P et al. in South region found 67.4% of the drugs were prescribed by brand name which is higher in comparison to our findings. But generic drug utilization pattern was much less (7.4%) in Pune region of India as observed by Anuja et al. Bapna et al. also observed use of less number of generic drugs in comparison to branded drugs at primary health care level in southern India. Above observations indicates that there is no uniform report regarding use of generic drugs as different patterns of generic drug utilizations are observed in different countries and even the different regions of India. There might be many reasons for such type of pattern. It may be health insurance related matter like in western world where insurance providers insist for generic substitution leading to high number of generic drug utilization. In some countries clinicians prescribe less generic drugs due to their belief of under quality of generic drugs. In some region pharmaceutical inducements to clinicians promote more utilization of branded drugs. Some governments promote generic drugs vigorously. Thus there are lots of factors which affect prescription pattern of generic drugs.

Use of Ampicillin only in generic form in our study indicates that generic drugs are qualitatively equal to branded drugs since it is most common antimicrobial agent which is used in most of the government institutions due to its cheap cost for the management of various conditions. As far as use of mostly branded cephalosporin in our region is concerned, it increases treatment cost which will not be helpful for the region since the district is tribal in nature with majority of population living in rural cum tribal areas.

CONCLUSION
Quality controlled generic drugs are equal in term of safety and efficacy. We suggest that generic drugs can be used since these drugs are cost effective which will have greater positive socioeconomic impact in this tribal region. Costly 3rd generation cephalosporins can be switched over with cheap generics or alternative antimicrobials to reduce health care costs.

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REFERENCES


Table- 1: Use of Generic and Branded Drugs
### Department-wise Drug Utilization Pattern

<table>
<thead>
<tr>
<th>Department</th>
<th>Generic</th>
<th>Branded</th>
<th>Total Drugs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Medicine</td>
<td>91</td>
<td>39.39</td>
<td>140</td>
<td>60.61</td>
</tr>
<tr>
<td>Surgery</td>
<td>65</td>
<td>25.50</td>
<td>190</td>
<td>74.50</td>
</tr>
<tr>
<td>*OBGY</td>
<td>118</td>
<td>46.65</td>
<td>135</td>
<td>53.35</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>85</td>
<td>39.91</td>
<td>128</td>
<td>60.09</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>37.86</td>
<td>592</td>
<td>62.14</td>
</tr>
</tbody>
</table>

*OBGY - Obstetrics and Gynecology

### Table 2: Use of Generic and Branded Antimicrobials

<table>
<thead>
<tr>
<th>Department</th>
<th>Generic</th>
<th>Branded</th>
<th>Total Drugs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Medicine</td>
<td>39</td>
<td>52.70</td>
<td>35</td>
<td>47.29</td>
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<tr>
<td>Surgery</td>
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<td>28.86</td>
<td>69</td>
<td>71.13</td>
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<tr>
<td>*OBGY</td>
<td>46</td>
<td>37.71</td>
<td>76</td>
<td>62.29</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>26</td>
<td>25.50</td>
<td>76</td>
<td>74.50</td>
</tr>
<tr>
<td>Total</td>
<td>139</td>
<td>35.19</td>
<td>256</td>
<td>64.81</td>
</tr>
</tbody>
</table>

*OBGY - Obstetrics and Gynecology