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CURRENT SCENARIO OF COMMON DISEASES AND THEIR MANAGEMENT USING WHO DRUG USE INDICATORS IN PAEDIATRIC OUTDOOR PATIENTS IN JAIPUR

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ABSTRACT

Introduction and Objective: The assessment of drug utilization is important for clinical, educational and economic purpose. The present study evaluated prescriptions using WHO core drug indicators in the paediatric outdoor patient department. Material and Methods- It was a prospective, observational study carried out in a .private set up of Jaipur. Total 600 prescriptions were randomly selected over a period of three months and were analysed using the standard WHO-Drug Use Indicators (DUI). **Results:** The present study observed that the maximum patients were between one to five years of age with male predominance. Respiratory diseases were most common. Commonly used drugs were antipyretics followed by antibiotics, bronchodilators, antiemetics, antitussives and probiotics. Average number of drugs/encounter were 2.15 with 18.8% of antibiotics / encounter. Only 2.4% drugs were prescribed by generic name and 96.5% drugs were selected from EDL. Amongst the antibiotics penicillins, macrolides and cephalosporins were prescribed. 0.9% drugs were used by injectable route. The average consultation time and dispensing time were 8 minutes and 7 minutes respectively. 86.5% drugs were actually dispensed. All the drugs were adequately labelled and78% patients had knowledge of correct doses. It cost average 210 INR in prescriptions with antibiotics and average 102.INR in those without antibiotics. **Conclusion:** The present study finds that the major drug core indicators are close to the standards set by WHO in private set up. However there is scope to increase the use of generic drugs and patients knowledge about drugs.

KEYWORDS: Paediatric population, Outdoor patients, WHO prescribing indicators.

INTRODUCTION

Infants and children are the most vulnerable population groups to contact diseases. According to the 2011 Census, some 470 million people in the country are aged below eighteen years and constitute 41 percent of India's total population.[1] The spectrum of disease prevalent in them is entirely different from the disease spectrum in the adult population and it is also found to vary in rural and urban population. After malnutrition, infections like pneumonia, diarrhoea, sepsis, malaria are the major cause of paediatric morbidity.[2] Effective medical treatment of paediatric patient is based upon an accurate diagnosis and optimum course of therapy which involves a proper medication regimen. WHO has collaborated with the International Network for Rational Use of Drugs (INRUD) to develop a set of "core drug use indicators" These indicators measure the performance in three related areas of "prescribing practices, patient care, and facility-specific factors.".[3] In other words, these indicators assess the process of making a diagnosis, prescribing, dispensing and using of drugs by the patient.

A large number of studies using core drug use indicators have been carried out in adults but any such data in children is lacking .So this study was designed to know the current scenario of common diseases and their management using the core drug use indicators in paediatric population in the outdoor of a private clinical setup of Jaipur. Feedback from the study would help to facilitate better health care delivery in this subset of population.

MATERIAL AND METHODS

This was a prospective observational study conducted in a private clinical setup of Jaipur after taking ethical permission. Study was undertaken for 3 months duration (from Jan-March 2016). Patients below 12 years of age was included in the study. All the patients above twelve years of age, ICU and emergency patients were excluded from the study. Data were collected from clinical notes of the physician. The prescriptions were analysed for the following points as per WHO indicators.

1. Prescribing indicators-average number of drugs per prescription, percentage of drugs prescribed by generic name, percentage of prescriptions with an antibiotic prescribed, percentage of prescriptions with an injection prescribed, percentage of drugs prescribed from essential drug list.

2. Patient care indicators- average consultation time, average dispensing time, percentage of drugs actually dispensed, percentage of drugs adequately labelled, patient's knowledge of correct doses. All these points were enquired from the patients and calculated to get required data.
3. Facility indicators-availability of copy of essential drug list, availability of key drugs.
4. Others – average medicine cost per encounter, average antibiotic cost per encounter, drug- groups prescribed, common dosage forms.

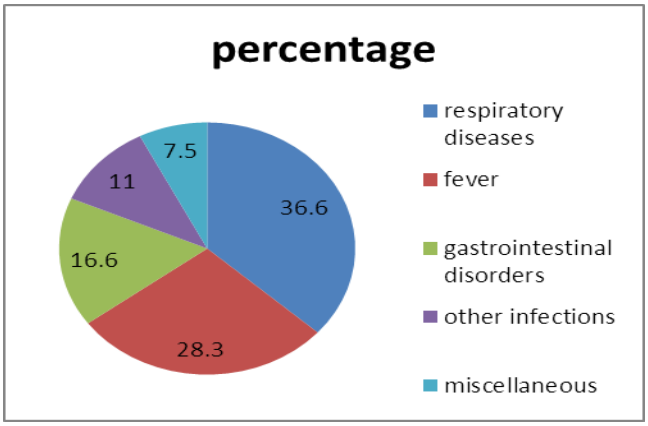
RESULTS

A total of 600 patients' prescriptions were analyzed. In that 410 (68.3%) patients were male and 190 (31.6%) patients were female. The age-wise distribution of patients noted is given in table 1.

Table: 1 Age wise distribution of paediatric population in OPD

Age groups	No of patients (%)
0-1 month	(15.0)
1 month-1 year	(28.4)
1 year-5 year	(40.0)
6-12 year	(16.6)

The present study shows that the common prevalent diseases in children are respiratory diseases (36.6%), fever (28.3%), gastrointestinal disorders (16.6%), other infectious diseases (11.0%) and miscellaneous diseases like dengue (6.0%), jaundice 1.5% etc. (graph 1).



Graph 1: Disease pattern of paediatric population in OPD

Total no. of 1304 drugs were prescribed to 600 prescriptions. Amongst the prescribing indicators, we found that the average number of drugs per prescription was 2.15. The numbers of drugs prescribed per prescription varied between minimum of one and maximum

of 5. Only 2.4% of medicines were prescribed by generic name. 18.8% of prescriptions had antibiotics prescribed in them. Out of total medicines, only 0.9% was injectables which were mainly antibiotics and steroids. All the drugs were prescribed from EDL.

As in the patient care indicators, the average consultation time was found to be eight minutes and average dispensing time was seven minutes. All the drugs were adequately labelled. Patient's knowledge about correct dose and dosing schedule was adequate in 78% patients. 86.5% of medicines were actually dispensed.

Clinician was not having facility of EDL.

Besides above mentioned indicators, other aspects studied showed that the average medicine cost per encounter was 102 INR and average antibiotic cost per encounter was 210 INR.

In our study anti-pyretic agents (33.8%) were the main class of drugs prescribed. Commonly prescribed drug groups are given in table2. Antibiotic constituted 245of total no of drugs prescribed. Most commonly used antibiotics were amoxicillin and clavulanic acid combination, azithromycin, cephalosporins.

Most common dosage form was syrup (60.6%). Other dosage forms used were oral drops, tablets, sachets, nasal drops, inhalers and injectables in that order.

Table2: Common drug- groups prescribed in paediatric population

Drug-group	Number (%)
Antipyretic	439(33.8)
Antibiotics	245(18.8%)
Antiemetics	110(8.4%)
Antihistaminics	110(8.4%)
Bronchodilators	82(6.1%)
Pre-probiotics	70(5.4%)
Antitussives	149(11.4%)
Vitamins	49(3.8%)
Steroids	31(2.3%)

Table 3: WHO core drug indicators

I	Prescribing indicators	
A	Average number of drugs per prescription	2.15
B	percentage of drugs prescribed by generic name	2.4
C	percentage of prescriptions with an antibiotic prescribed	18.8
D	percentage of prescriptions with an injection prescribed,.	0.9

E	percentage of drugs prescribed from essential drug list	96.5
II	Patient care indicators	
A	average consultation time	8 min
B	average dispensing time	7 min
C	percentage of drugs actually dispensed	86.5
D	percentage of drugs adequately labelled	100
E	patient's knowledge of correct doses	78 %
III	Facility indicators	
A	availability of copy of essential drug list	No
B	availability of key drugs	Yes
C	Availability of clinical guidelines	Yes

DISCUSSION

WHO launched a global campaign in 2007 called "make medicines child size" to address the issues of drug use in paediatric population. The management of children require correct diagnosis of disease and right medication for appropriate duration. Present study which was conducted on 600 prescriptions reveals that the ratio of male-female population was 2:1 which was found similar to the study conducted by Sharad et.al.[5] Maximum (40%) patients were in age group 1year -5 year, followed by 1month-1 year age group. This may be due to more social interaction in school, playgrounds etc making them more vulnerable to infection. This is in contrast to study results by Akthar et al where most common age group of presentation was 1month-1 year.[6]

Respiratory disease was the most frequent reason for consultation in the urban paediatric population followed by general pyrexia, acute gastroenteritis, abdominal pain, asthma in that order. The results of our study are similar to other studies.[5,7]

While evaluating the prescribing indicators, it was found that average of 2.15 drugs prescribed per patient encounter. It is very close to the standard value set by WHO i.e less than two.[9] These results are similar to study by Fatima et al.[8] However, it varied from 4.0-5.6 in other studies.[4,6]

Antibiotics were prescribed only in 18.8% cases in our study. WHO indicates that optimally, this value should be less than 30%.[9] While the similar study by Akhtar et al had reported that 81.12% patients were prescribed antibiotics, which is very high in comparison to our study.[6] This can be explained because the unnecessary use of antibiotics should be curbed down to reduce antibiotic resistance. As per WHO standards, ideally all the drugs should be prescribed by generic name and should be selected from EDL. But in our study 96.5% drugs

were prescribed from EDL but only 2.6percent were prescribed by generic name. Many other studies also show that drugs prescribed by generic name are very less, vary between 1.4-5.8%.[5,7,10] The possible reason could be brand names are easy to recall, easily available and many times also favoured due to promotional strategies. Drugs by injectable route were given only in 0.9 percent cases in our study which was mostly used for antibiotics and bronchodilators. The WHO proposed an optimal value for this indicator should be less than20%.[9]

The average consultation time spent with each patient was 8 minutes in our study. Half of this time was used to explain how to measure the exact dose in syrups / suspension using the measuring cap, proper method for inhalers, and the importance of compliance in antibiotic. The patient care indicators in our study are very similar to other study but are very different from the study done by Harshal N Pise[6,11] He reported only 69% of prescribed drugs were actually dispensed and knowledge of correct doses was only 19%. This may be due to rural population and less time spent with patient due to work overload.

The average cost of drugs per prescription without antibiotic was INR 102 and INR 210 with antibiotics, these values being comparable to another study.[6,12]

In the end it is admitted that due to lack of resources our study had few limitations like it was a single centre study & short period. Furthermore, paediatric diseases often show seasonal variation in India. It is suggested to carry out a multicentre large scale study for longer duration of time for better feedback to researchers and prescribers.

CONCLUSION

Our study provides current scenario regarding disease pattern showing Respiratory diseases being predominant followed by pyrexia and gastrointestinal infection among paediatric outpatients in private setup. The major drug core indicators like average no. of drugs prescribed per patient encounter & use of antibiotics are close to the standards set by WHO. However there is scope to increase the use of generic drugs and patients knowledge about drugs. EDL & clinical guidelines must be available at all setups to meet the WHO standards. It is suggested by gathering important information regarding drug use patterns in the paediatric population will definitely help to improve prescribing practice.

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