

Exclusion criteria

1. Neonates not receiving any medications other than fluids/electrolyte solution, parenteral nutrition, nutritional supplements, blood and blood products, oxygen, phototherapy, and vaccinations.
2. Neonates admitted to NICU for mother sake.

Data collection

- Data were recorded in predesigned performa for the study; prescriptions were evaluated for profile name, education and occupation of parents, diagnosis, birth weight, gestational age, congenital anomalies, and time of admission after birth.
- The name, formulation drug, route of drugs administration, generic and brand name, drugs, and from essential drug list.

Statistical analysis

Data were analyzed by Microsoft Office Excel 2007 and using descriptive statistics. Results were depicted in the form of percentages and graphs. A total of 220 prescriptions were scrutinized, over a period of 6 months from April 2014 to September 2014, on the basis of inclusion and exclusion criteria.

RESULTS

Data show that male neonates (53.6%), outnumbered female neonates (46.4%) (Fig. 1).

A total of drugs prescribed 808 and drugs were prescribed in the range of 1-6, that is minimum 1 to maximum 6 drugs per prescription. The average number of drugs per prescription was 3.6. The most frequently prescribed therapeutic class of drugs antimicrobial agents (60.64%) followed by vitamin K (26.7%) and aminophylline (9.4%) (Table 1). Most of the antimicrobials prescribed belonged to aminoglycosides group (gentamycin), followed by cephalosporin (cefotaxime) and carbapenem (meropenem) and all these drugs are given by parenteral route.

The drugs are prescribed by branded name outnumbered than a generic name. The maximum number (50%) of neonate was born with birth weight <2.5 (Table 2). The maximum number (42%) of neonate was born at 34-36 weeks of gestation (Fig. 2). The common neonatal conditions are preterm LBW (39%), neonatal sepsis (24%), birth asphyxia (11%), meningitis (6%), and others (20%).

Few number of neonates received bronchodilators, antiepileptic drugs, and micronutrient compounds.

DISCUSSION

Drug utilization studies are the tools helps both prescribing physicians and the hospital administration regarding drug audit, and drug expenditure. Furthermore, helps in cost analysis which is an important parameter to decide whether it is a rational or not drug therapy. It is also helpful in framing hospital formulary and standard treatment guidelines as per the diagnosis. These studies not only guide for the rational use of drugs but are also helpful in making treatment cost-effective and beneficial to patients and reduce the burden of poorly funded health system in developing countries like India [7-9].

In this study, the average number of drugs per encounter were 3.6 consistent with study of Brijal *et al.* 2015 (4.4%) [2]. An average number of drugs per prescription should always be kept low as it can lead to increase in unnecessary cost of treatment, higher possibility of drug-drug interaction, and also increase the risk of adverse drug reactions and antibiotic resistance.

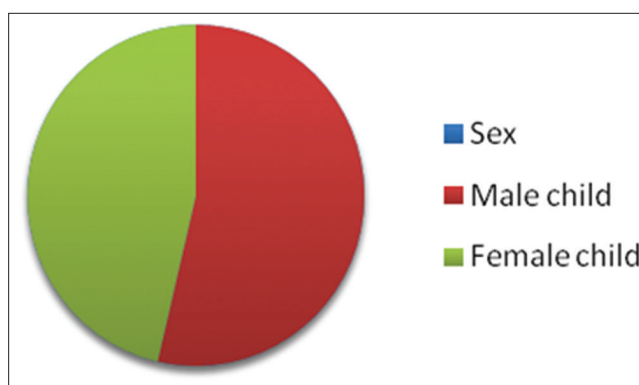
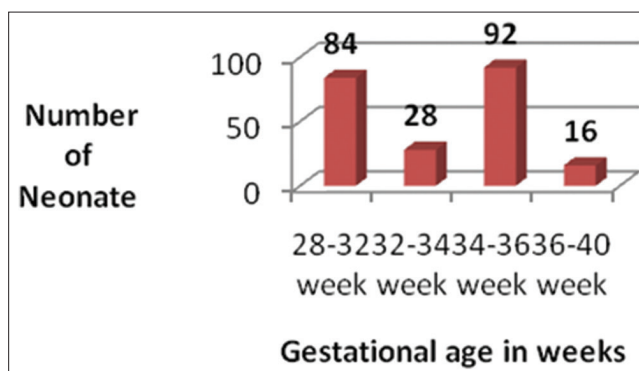
Demographic profile shows male (54.3%) preponderance in neonates attending the NICU consistent with study of Brijal *et al.* 2015 (60%) [2]. The gender discrimination in terms of access to health-care is apparent in the study. There is an immediate need to

Table 1: Different therapeutic class of drug prescribed

Class of drugs prescribed	n (%)
Antimicrobial agents	490 (60.64)
Vitamin K	216 (26.73)
Aminophylline	76 (9.4)
Phenobarbitone	6 (0.7)
Pentazocine	2 (0.2)
Phenytoin	2 (0.2)
Others	8 (2.1)

Table 2: Birth weight of neonate

Birth weight of neonates	Number of neonate
<1 kg	6
1-2 kg	110
2-3 kg	84
> 4 kg	2

**Fig. 1: Gender distribution of neonate****Fig. 2: Neonate born at gestational age**

create awareness against gender discrimination which begins at the early age.

Findings were reported by majority (80.8) of the neonates were under 7 days of age, indicating that most of neonatal diseases are common in early neonatal age. This is in accordance with study conducted by Junejo *et al.* [10,11] in which patients admitted in the early neonatal period were 83.4%. A neonate is particularly vulnerable to adverse influences such as asphyxia, infection, and complications of preterm birth. During early neonatal days (7) and requires special attention. Parenteral route is commonly seen in NICU and it plays crucial role in the management of sick neonates until they can tolerate enteral/oral feeding.