Drug Formulations Should be Rational and Uniform

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Sir,

All efforts should be made to minimize human error to avoid mishap in all walks of life, and specially in medical field. Such mishaps may result in injury or even death. Positive step taken in medical science has been introduction of different colour tubings in the operating theatres like white, or black and white tubing for oxygen, blue tubing for nitrous oxide, black tubing for air and yellow tubing for suctioning. In the past many accidents had occurred when instead of oxygen, nitrous oxide had been administered to some patients because of human error.

Phenytoin for epilepsy is available as liquid preparation for children under two brand names: (a) Dilantin suspension, 1 ml contains 25 mg of active ingredient and (b) Eptoin suspension 5 ml contains 30 mg of active ingredient. Liquids dispensed as drops mention ingredients per ml and suspensions mention ingredients per 5 ml. Liquid Dilantin is available as suspension but quantity of phenytoin is mentioned per 1 ml and not per 5 ml. Interchange of Dilantin and Eptoin bottles can lead to mishap. Both products should have similar amount of the drug to avoid any mishap.

Paracetamol liquid is available as drops and suspensions. Most of the drops preparations contain 100 mg of paracetamol per ml, while few preparations contain 125 mg or 150 mg of paracetamol per ml. Paracetamol liquid preparations available in the market have varying quantity of paracetamol in each 5 ml; 120 mg, 125 mg, 156.25 mg and 250 mg. Metronidazole and Furazolidine combinations in liquid form with different quantities of ingredients are available as can be seen in Table 1 [1].

There is a risk of getting drug with different concentrations of ingredients at the pharmacy. Drug industry should take steps to make drugs with uniform quantity of active ingredients to avoid any mishap due to human error. The quantity of active ingredients should be such that makes accurate dose to be administered easy. Paracetamol is administered at 15 mg per kg weight per dose, so paracetamol drops should have 150 mg paracetamol per ml, thus a child weighing 10 kg would need 1 ml of the medicine and a child weighing 5 kg would need 0.5 ml of the medicine. Similarly suspensions should contain 150 mg and 300 mg per 5 ml of liquid for easy calculation of dose.

Cefexime is administered at 4 mg per kg weight per dose so cefexime drops containing 20 mg and 40 mg per ml for infants and 40 mg and 80 mg per 5 ml of liquid would be better option for children. Similarly ofloxacin is administered at 7.5 mg per kg body weight per dose, so ofloxacin liquids containing 75 mg and 150 mg per 5 ml would be easy for calculation of doses.

Table 1 Quantity of Metronidazole and Furazolidine in different products

5 ml syrup	Metronidazole	Furozolidine
Aristogyl F, Diaglow, Flagyl F	100 mg	30 mg
Dependal M	100 mg	25 mg
Fumestar	75 mg	25 mg
Metrogyl F	200 mg	40 mg

Reference

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