- 7. Lewander WJ, Lacouture PG. Office management of acute pediatric poisoning. *Pediatr Emerg Care* 1989; 5: 262-272.
- 8. Kullig K, Duffy KP, Lunden CH et al. Toxic effects of methanol, ethylene glycol and isoproply alcohol. *Top Emerg Med* 1984; 6: 14.
- Anas N, Namasonthi V, Ginsburg CM. Criteria for hospitalizing children who have ingested products containing hydrocarbons. JAMA 1981; 246: 840-843.
- Berg KJ. Acute acetyl salicylic acid poisoning: treatment with forced alkaline

- diuresis and diuretras. Eur J Clin Pharmacol 1977; 12: 111-116.
- Morgan DP. Recognition and management of pesticide poisonings. 3rd edn. Washington DC. VS Environmental Protection Agency, 1982.
- 12. Rumack BH, Peterson RC, Koch GC et al. Acetaminophen overdose. 662 cases with evaluation of oral acetylcysteine treatment. Arch Intern Med 1981; 1141: 380-385.
- 13. Crome P. Antidepressant overdosage. Drugs 1982; 23: 431-435.

THE INDICATOR OF STAFFING NEED (ISN) SYSTEM

The ISN system uses formulae to calculate the requirement for any particular category of health worker in the general form: $n = v1 \times w1 + v2 \times w2 + v3 \times w3$ etc

p

where n = the number of staff required, v = a volume measure of work-load, w = a weight to be attached to that unit of work-load, and p = a productivity standard.

To take an example, the method was applied to find how many nurses were required to staff a district hospital. The volume measures chosen were inpatient days and outpatient attendances (all types). After some trial with alternatives, a weight of 12 was assigned to an inpatient day, relative to a weight of 1 for an outpatient attendance. Lastly, a productivity standard of 10200 weighted units per year was adopted. When applied to a district hospital which in 1986 had recorded 85534 inpatient days and 55843 outpatient attendances, the formula yielded a requirement for 106 nurses: $n = 85534 \times 12 + 55843$

=106

10200

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