- Nacher M. Malaria vaccine trials in a wormy world. Trends Parasitol 2001;17:563-5
- 3 Bundy D, Sher A, Michael E. Good worms or bad worms: do worm infections affect the epidemiological patterns of other diseases? *Parasitol Today* 2000;16:273-4
- 4 Karanja DM, Colley DG, Nahlen BL, Ouma JH, Secor WE. Studies on schistosomiasis in western Kenya: I. Evidence for immune-facilitated excretion of schistosome eggs from patients with Schistosoma mansoni and human immunodeficiency virus coinfections. Am J Trop Med Hyg 1997; 56:515-21
- 5 Kongs A, Marks G, Verle P, Van der SP. The unreliability of the Kato-Katz technique limits its usefulness for evaluating S. mansoni infections. Trop Med Int Health 2001;6:163-9
- 6 Hall A. Quantitative variability of nematode egg counts in faeces: a study among rural Kenyans. Trans R Soc Trop Med Hyg 1981;75:682-7
- 7 Utzinger J, Booth M, N'Goran EK, Muller I, Tanner M, Lengeler C. Relative contribution of day-to-day and intraspecimen variation in faecal egg counts of Schistosoma mansoni before and after treatment with praziquantel. Parasitology 2001;122:537-44
- 8 French N, Nakiyingi J, Carpenter LM, et al. 23-valent pneumococcal polysaccharide vaccine in HIV-1-infected Ugandan adults: double-blind, randomised and placebo controlled trial. Lancet 2000;355:2106-11
- 9 Katz N, Chaves A, Pellegrino N. A simple device for quantitative stool thick-smear technique in Schistosomiasis mansoni. Revista Inst Med Trop São Paulo 1972;14:397-400
- 10 Allen A, Ridley DS. Further observation on the formol ether concentration technique for faecal parasites. J Clin Pathol 1970;23:545-6
- 11 Friend J. Helminths. In: Collee JG, Fraser A, Marmion B, Simmons A, eds. Mackie & McCartney Practical Medical Microbiology. London: Churchill Livingstone, 1996: 757-78
- 12 De Jonge N, Fillie YE, Deelder AM. A simple and rapid treatment (trichloroacetic acid precipitation) of serum samples to prevent non-specific reactions in the immunoassay of a proteoglyan. *J Immunol Meth* 1987;99:195-7
- 13 Deelder AM, De Jonge N, Boerman OC, et al. Sensitive determination of circulating anodic antigen in Schistosoma mansoni infected individuals by an enzyme-linked immunosorbent assay using monoclonal antibodies. Am J Top Med Hyg 1989;40:268-72
- 14 Kallestrup P, Gomo E, Zinyama R, et al. Schistosomiasis and HIV in co-infected individuals - egg excretion [Abstract]. XIVth International Conference on AIDS, Barcelona. Geneva: UNAIDS, 2002: WeOrCi376
- 15 van Lieshout L, Panday UG, De Jonge N, et al. Immunodiagnosis of Schistosomiasis mansoni in a low endemic area in Surinam by determination of the circulating antigens CAA and CCA. Acta Trop 1995;59:19-29
- 16 Jongwutiwes S, Charoenkorn M, Sitthichareonchai P, Akaraborvorn P, Putaporntip C. Increased sensitivity of routine laboratory detection of Strongyloides stercoralis and hookworm by agar-plate culture. Trans R Soc Trop Med Hyg 1999;93:398-400
- 17 Koga K, Kasuya S, Khamboonruang C, et al. A modified plate method for detection of Strongyloides stercoralis. Am J Trop Med Hyg 1991;45:518-21
- 18 Uparanukraw P, Phongsri S, Morakote N. Fluctuations of larval excretion in Strongyloides stercoralis infection. Am J Trop Med Hyg 1999;60:967-73

Prescription audit: experience in Garhwal (Uttaranchal), India

R K Rishi¹ Sharma Sangeeta² K Surendra¹ M Tailang¹

¹Department of Pharmaceutical Sciences, HNB Garhwal University Srinagar (GWL), Uttaranchal-246174; ²Technical Co-ordinator, India-WHO Essential Drugs Program, Delhi Society for Promotion of Rational Use of Drugs (DSPRUD), National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi, India

Correspondence to: Professor R K Rishi, Pharmacology Department, Central Drugs Laboratory, Govern of India, 3 Kyd Street, Kolkata-700 016, India E-mail: rkrishi@yahoo.com

TROPICAL DOCTOR, 2003, 33, 76-79

SUMMARY A total of 400 prescriptions were randomly audited from Govern Combined Hospital, Srinagar (Garhwal). Various prescribing specific indicators (recommended by World Health Organization and others) were studied and patient compliance was measured. All of the prescriptions were written for outpatients (males 59.25%; females 40.75%). The average number of drugs prescribed was 3.65 and about 51% of the drugs were prescribed by generic names. NSAIDs were the most widely prescribed (89.75%), antibiotics (77.25%), and vitamins (59.74%) in various clinical conditions. The diagnosis was mentioned only in 22.25% of the prescriptions. A total of 59% fixed dose combinations (FDCs) were prescribed. The patient compliance was 71.5%. The injection use was found to be 7% only. Our survey reveals increased drug exposure to the patients, indiscriminate use of NSAIDs, antibiotics and vitamins. Further studies in this area using a larger sample size should be carried out, and a well designed training programme should be conducted on rational drug use.

Introduction

In recent years, there has been great concern about the drug utilization pattern of many healthcare practices¹ There has been a tremendous increase in the number of pharmaceutical products available. Despite the acceptance of the essential drug concept by over 100 countries, current drug use patterns frequently result in unsafe use, waste of scarce resources, patient non-compliance, increased adverse drug reactions, and disease resistance². Drug use is affected by a complex web of knowledge, unbiased sources of information, aggressive drug promotion by the pharmaceutical industry, attitudes, practices and influences that go far beyond the usual bio-medical model and can vary widely between countries, professional groups and the general public. It is increasingly becoming important to document what drugs are prescribed, how many, for what reasons, and the cost involved, etc.¹. An essential tool in this respect is an objective, standard method of describing a pattern of drug-use and prescribing behaviour in health facilities by prescription audit^{3,4}. Quantitative and qualitative methods are available to study the pattern of drug use. To encourage drug-utilization studies, the World Health