offer hepatitis B vaccine to (a) all non-immune recipients (24) or (b) staff in certain occupational groups only (six) or only if the donor was hepatitis B positive (two). Twenty nine out of 32 respondents would seek advice about zidovudine if a donor was known to be HIV positive. None of the hospitals' policies outlined procedures for dealing with a risk of transmission of hepatitis C virus.

Comment

As the overall response rate was only 72% we could not assess how well the results reflect procedures throughout the Mersey region. Some important points, however, came out of the survey.

We found that the screening of donors varied depending on the person handling the incident. Storage of serum from the recipient was usually recommended, however, and over a third of respondents who recommended storage also tested the samples for hepatitis B surface antigen. The result of such testing only provides information about previous exposure; it does not show infection as a result of the current injury.

It is of concern that immunisation against hepatitis B virus may be advised only for staff who are in occupations that are regarded as high risk, as surveys have shown that staff in a wide range of occupations are vulnerable to injury.³ We also found that the criteria

for using hepatitis B immunoglobulin varied among respondents.

None of the hospitals' policies on injuries from sharp instruments addressed the issues that would arise if transmission of hepatitis C virus was a risk. Seroconversion occurs in 2.7% of cases of exposure to blood from people who are positive for hepatitis C antibodies, and up to 50% of those who seroconvert may develop irreversible liver disease.^{4,5}

In conclusion, we have shown that the management of injuries from sharp instruments varied both among hospitals and among members of staff in the same hospital. It is important to reduce the number of needlestick accidents, but as preventive measures do not always succeed health care workers who are injured by a sharp instrument must be able to obtain clear advice and counselling immediately, with appropriate intervention and follow up.

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- 3 Newman CPS, Hambling MH. Hazardous incidents and immunity to hepatitis B. *Communicable Disease Reports* 1992;2:R30-1.
- 4 Kiyosawa K, Sodeyama T, Tanaka E, Nakano Y, Furuta S, Nishioka K, *et al*. Hepatitis C in hospital employees with needlestick injuries. *Ann Intern Med* 1991;115:367-9.
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Commercial source of drug information: comparison between the United Kingdom and India

R K Dikshit, N Dikshit

Departments of Pharmacology and Physiology, BJ Medical College, Ahmedabad 380 016, Gujarat, India
R K Dikshit, *associate professor of pharmacology*
N Dikshit, *associate professor of physiology*

The prescription of proprietary drugs and the lack of an independent formulary may contribute to the use of a commercial source of drug information by doctors. The *Monthly Index of Medical Specialties (MIMS)* is one such publication available in both the United Kingdom and India. We compared the two editions for differences in the information provided and the quality of advertisements.

Methods and results

We analysed the March 1992 issue of the British edition of *MIMS* and the August 1993 issue of the Indian edition, for several general features (see table). We recorded the numbers of advertisements, products under each heading and on each page, and words used to describe a product. Full page advertisements were studied in detail as described previously.¹ Briefly, information provided, drug names, and the use of superlatives and visual images were recorded.

The general features of both editions were similar (table). The initial description of a drug group focused mainly on the indications and adverse drug reactions. The quality of the information given varied from group to group, differing inconsistently between the two editions. Product information gave the trade and generic names, manufacturer, preparation(s), dosage, and cost, with just the numbers of indications and side effects. Product appearance and its legal category were given in the British but not the Indian edition. Therapeutic comparisons between the drugs and drug groups were never given, and the information provided was generally insufficiently detailed in both editions.

Legibility was poor in the Indian *MIMS*. Twenty three tables and charts were given in the British *MIMS* but none was given in the Indian version. Some peculiar headings appeared in both editions (cerebral activators, enzymes-digestives, respiratory stimulants in the Indian *MIMS*; wart removers, leg ulcer treatments in the British version). The table shows important differences in the number of products listed under many therapeutic headings.

Indications and side effects were omitted in 51% and 86% of advertisements respectively in the Indian edition and in 59% and 57% respectively in the British

Summary of comparison between British and Indian editions of "MIMS"

	British MIMS	Indian MIMS
<i>General features</i>		
Price per issue	£5 approx	27 Rupees (£0.6)
Printing area (mm)	195 × 132	200 × 115
No of pages	328	284
No (%) of pages lost in advertisements	68 (21)	66 (23)
No of headings	84	91
No of listed products (preparations)	2315 (3295)	1973 (2905)
No of products described per page*	9 (7-12)	10 (8-12)
No of words per entry*	53 (35-73)	51 (38-72)
No of products (preparations) listed under various headings:		
Laxatives, etc	41 (50)	15 (18)
Antidiarrhoeals	13 (17)	31 (43)
Enzymes-digestives	0	22 (30)
NSAIDs	44 (69)	72 (114)
Contraceptives	53 (64)	7 (7)
Anti-infectives	111 (209)	198 (427)
Tonics and vitamins	36 (54)	118 (165)
Cough remedies	26 (51)	59 (77)
Acne treatment	37 (55)	4 (5)
Skin preparations	95 (124)	22 (28)
Dressings and appliances	157 (166)	10 (14)
<i>Advertisements</i>		
Total No	114	80
No (%):		
Full page	37 (32)	57 (71)
With generic name missing	3 (8)	11 (19)
With trade name:		
> Five times size of generic name	22 (65)	23 (51)
In colour	27 (73)	36 (64)
With generic name in colour	2 (6)	5 (11)
Using images	35 (95)	50 (88)

*Median value (interquartile range).
NSAIDs = non-steroidal anti-inflammatory drugs.

Correspondence to:
Dr R K Dikshit.

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edition. Cost was never given in Indian advertisements and was missing in 21 (57%) British advertisements. Space was regularly lost in unnecessary images; superlatives were used, without further qualification, rather freely in Indian advertisements (high quality, unsurpassed, unmatched, fastest, best, super-spectrum, safe) and with slightly greater caution in British advertisements (revolutionary, outstanding, power, faster, first line, trusted). Advertisements were usually placed strategically in the appropriate therapeutic section.

Comment

Although the information given in *MIMS* is generally well organised, it lacks education value because of its lack of adequate elaboration and comparison. General features should be described initially at length with some points of comparison, and differences being pointed out only in individual entries. The number of entries per page could be reduced, and *MIMS* should be more selective in its entries—for example, why include so many tonics, cough remedies, antidiarrhoeals, and non-steroidal anti-inflammatory drugs in the Indian version? The Indian version of *MIMS* needs several other improvements as noted above.

Drug advertisements continue to be irrational. Larger numbers of advertisements have been analysed before with similar conclusions.^{1,2} In the United Kingdom the code of practice of the Association of the British Pharmaceutical Industry³ regulates drug advertising and is said to be broken commonly.⁴ The Indian Drug Manufacturers' Association seems to have a code of practice like that of the Association of the British Pharmaceutical Industry; the Indian edition of *MIMS* follows the code of the International Federation of Pharmaceutical Manufacturers' Associations, and both these codes seem to have been broken in many cases in our study. There is clearly a need for tough codes and laws; equally important is their rigorous implementation, particularly in developing countries. While the drug indexing journals in India continue to increase and become more powerful, prescribers need to be reminded periodically of their own limitations and the general credibility of drug advertisements.

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- 2 Stimson GV. Information contained in drug advertisements. *BMJ* 1975;iv:508-9.
- 3 ABPI code of practice for the pharmaceutical industry. In: *ABPI data sheet compendium 1989-90*. London: Datapharm, 1989:VII-XV.
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Vertebral deformities as predictors of non-vertebral fractures

Huibert Burger, Paulus L A van Daele, Douwe Algra, Albert Hofman, Diederick E Grobbee, Henry E Schütte, Jan C Birkenhäger, Huibert A P Pols

Department of Epidemiology and Biostatistics, Radiology, and Internal Medicine, Erasmus University Medical School, PO Box 1738, 3000 DR Rotterdam, Netherlands

Huibert Burger, resident in epidemiology

Paulus L A van Daele, resident in internal medicine
Douwe Algra, research associate

Albert Hofman, professor of epidemiology

Diederick E Grobbee, professor of clinical epidemiology

Henry E Schütte, professor of radiology

Jan C Birkenhäger, professor of internal medicine

Huibert A P Pols, senior endocrinologist

Correspondence to: Dr Pols.

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The estimated number of people fracturing a hip will increase from 1.7 million in 1990 to 6.3 million in 2050.¹ It is therefore important to identify risk factors.² Previous vertebral fractures have been shown to increase the risk of subsequent vertebral fractures.³ The degree of spinal deformity may, however, indicate the bone quality of the whole skeleton. We investigated the association between vertebral deformities and new non-vertebral fractures.

Subjects, methods, and results

This nested case-control analysis was carried out within a larger prospective follow up investigation of disease in elderly people.⁴ We studied 40 subjects who had a non-vertebral fracture on average 582 (range 287-1028) days after entering the larger study. Controls were subjects who had not had a non-vertebral fracture during 648 (range 113-1072) days of follow up and who were patients of the general practitioners of the patients with fracture.

On entering the study patients were asked about hip and wrist fractures in the past five years, history of hip

fracture in parents or siblings, and frequent falling (more than once a month). Vertebral heights were measured from lateral radiographs and ratios were calculated according to Melton *et al.*⁵ A grade I or grade II deformity was recorded in a vertebra if one of the ratios was smaller than a reference value minus 2 SD or 3 SD, respectively. A mild spinal deformity was defined as one to three grade I vertebral deformities and at most one grade II deformity, and a severe deformity as more than three grade I or more than one grade II deformities. Radiographs of the spine were unavailable in one case and in two controls. We measured bone mineral density at the femoral neck by dual energy x ray absorptiometry. The associations of baseline variables with new non-vertebral fractures were expressed as relative risks adjusted for age and sex.

Ten patients had fractures in the hip, 17 in the radius or ulna, and 13 elsewhere. Mean age was 74.7 (SD 8.5) years in cases and 74.4 (SD 7.6) in controls; 90% of subjects were women. Subjects with a history of a wrist or hip fracture had a significantly higher risk (relative risk 3.1, 95% confidence interval 1.1 to 8.6) of fracture. A family history of hip fracture (2.0, 0.6 to 5.9) and frequent falling (4.7, 0.8 to 26.2) did not significantly increase the risk of fracture. The highest quartiles of bone mineral density (0.3, 0.1 to 1.1) and body mass index (0.8, 0.3 to 2.4) were associated with a non-significantly decreased risk.

The table shows the increasing relative risk of incident non-vertebral fractures with increasing spinal deformity. Adjustment for bone mineral density did not affect the risk estimates. The relative risks were also similar after other variables were adjusted for.

Comment

We found a strong relation between spinal deformity and subsequent non-vertebral fractures that was independent of bone mineral density. Our findings agree with the observations by Ross *et al* that previous vertebral fractures predict future vertebral fractures.³

There are at least two explanations of our findings. Firstly, an increased thoracic kyphosis caused by multiple vertebral deformities could shift the centre of

Relative risk of baseline spinal deformation for new non-vertebral fractures

	Cases (n=39)	Controls (n=210)	Relative risk* (95% confidence interval)	Relative risk† (95% confidence interval)
No spinal deformity	12	94	1.0 (reference)	1.0 (reference)
Mild spinal deformity	19	100	1.6 (0.7 to 3.5)	1.5 (0.6 to 3.4)
Severe spinal deformity	8	16	4.4 (1.5 to 13.3)	4.1 (1.3 to 12.4)

*Adjusted for age and sex. P=0.026, Mantel test for trend.

†Adjusted for age, sex, and bone mineral density in the femoral neck. P=0.015, Mantel test for trend.