with self-care).⁴ Impaired mobility was the main reason for disability and difficulty with feeding or dressing for dependence. The frequency of dependence increased with age, 33 of the dependent patients being over 60 years.

The table shows the aids considered necessary and those supplied as a result of the assessment; the difference represents aids already provided. Aids to bathing were most often considered necessary, and most of these and virtually all the feeding aids had to be supplied. Toilet aids were needed by a few patients, and many miscellaneous aids were supplied to a few patients. Bath aids were considered useful by virtually all of those to whom they were supplied, as were the feeding aids except for the suction egg cup.

Aids needed and supplied

	Aids needed	No (%) of aids supplied after assessment	No* (%) useful	Cost per item (£)
Bath aids:				
Rail	46	31 (67)	28/29 (97)	4.25
Mat	38	23 (61)	21/21 (100)	1.60
Board	14	5 (36)	3/3 (100)	6.25
Seat	21	4 (19)	4/4 (100)	5.40
Stool	1	0		
Feeding aids:				
Manoy plate	22	20 (91)	10/15 (67)	Large 1.90, small 1.30
Manoy cup	10	8 (80)	4/5 (80)	0.96
Sunflower knife	22	21 (95)	13/15 (87)	1.95
Sunflower fork	17	17 (100)	13/15 (87)	1.17
Sunflower spoon	15	14 (93)	11/13 (85)	1.90
Dycem mat	33	33 (100)	23/25 (92)	1.40 or 2.20
Suction egg cup	15	15 (100)	6/14 (43)	0.19
Other	3	2		
Toilet aids:				
Rail	5	2		15.60
Seat	5	3		4.62
Grab rail	8	3		1.30
Commode	1	0		

*Denominators are numbers of patients followed up.

Miscellaneous aids were: Monkey pole 2, rope ladder 4, electric can opener 3, jar opener 3, tap turner 1, trolley 1, telephone amplifier 1, door bell 2, ramp 1, wheel-chair 2, shower 1, Zimmer frame 1, bridge card holder 1, shoe horn 1, helping hand 1, chair raise 2, ejector seat 1, high back chair 1, incontinence pads 1 (20 out of 30 had to be supplied).

The non-disabled patients often required bath aids (they were thought to need 25 items), but few needed feeding aids (7 items); most of these were supplied. Disabled patients required bath aids more often (32 items), but most had already been provided; they required feeding aids infrequently (15 items). The dependent patients required bath aids even more often (63 items), and half of these were supplied as a result of the survey. Nearly half the dependent patients needed feeding aids (106 items), and almost all of these were supplied; two-thirds of the other aids needed were also supplied after the survey. The mean cost of aids needed was £23.10 per patient.

Sixty two patients were followed up after an average of 10 months. Of the remainder, nine had died, five were in hospital or other institutions, and five had been seen less than six months previously. Nine of the 62 had changed their category of disability: three of those initially not disabled had become disabled and five dependent. Six of the nine required further aids not considered necessary at the first visit.

Comment

Several of the patients approached thought that their state did not warrant a visit from an occupational therapist, so the group studied was probably biased towards the more disabled. Despite presumably optimal drug treatment, three-quarters were disabled or dependent. Our findings suggest that this group of patients is considerably underprovided with simple aids to daily living, despite the fact that a third had already seen an occupational therapist. Only seven of the 29 patients already seen by an occupational therapist had had all their needs provided. The greater prior provision of bath aids to the disabled than to the dependent patients, despite the latter's greater needs, and the number of feeding aids supplied to the dependent, suggest that previous assessment of needs for aids may not have been totally realistic, though some of the feeding aids (the Sunflower cutlery) only became available in early 1978.

The high proportion of aids supplied that were considered valuable by their users confirms their practical usefulness. The cost of the aids supplied was small, and on average equalled the cost of 26 days' treatment with levodopa.

The proportion of patients who developed disability or dependence in the short follow-up, and with it a need for further aids, shows that assessment must be repeated if the patient's abilities deteriorate. Our findings thus indicate that all patients with Parkinson's disease who have any substantial degree of disability should be assessed,

preferably at home, by an occupational therapist as part of their routine management.

We are grateful to the anonymous donor whose generosity made possible both the study and the provision of aids, and to the Parkinson's Disease Society, the staff of the Institute of Neurological Sciences, and the patients, for their help.

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Costs of unnecessary tests: nonsense urines

Sandler¹ investigated the cost of unnecessary laboratory tests and reported that the incidence of abnormal results on routine urine examinations was 2 to 3%. He considered that routine urine examinations were of minimal value. In this laboratory, after examining a series of urine specimens, we concluded that only exceptionally did urine samples that were crystal clear contain significant numbers of either cells or bacteria. We therefore ceased to examine them bacteriologically unless clinical reasons for doing so were given on the request form.

Analysis of our urine reports suggested that there were some specimens from which bacteria might have been expected to grow but which were sterile on culture. After the obvious laboratory causes, such as inadequacies of culture media, had been excluded, we looked at the possible presence of undisclosed inhibitory substances (antibiotics) in the specimens.

Methods and results

Two hundred and four urine specimens, each of which was accompanied by a request form which indicated either by a positive statement or by the absence of information that antibiotics were not being administered at the time of collection, were examined for the presence of antibiotics. Antibiotics were present in 21% of samples (see table). These results led us to examine similarly 92 urine samples from patients alleged on the request form to be receiving antibiotics, with the results shown in the table.

Results of testing urine specimens for antibiotics in patients supposedly not taking them and in patients supposedly taking them

	Patients not taking antibiotics		Patients taking antibiotics	
	No of specimens	No (%) positive for antibiotics	No of specimens	No (%) negative for antibiotics
District general hospitals	114	32 (28)	49	3 (6)
Other hospitals	20	1 (5)	11	4 (36)
General practice	70	9 (13)	32	12 (38)
Total	204	42 (21)	92	19 (21)

Comment

It is disturbing that a fifth of patients said not to be receiving antibiotics were excreting them in the urine and that a fifth of those allegedly taking antibiotics were not excreting them in the urine. Of the several possible explanations for these results, the most likely are that antibiotics prescribed for non-urinary conditions were not recorded on the request form and that some patients were not taking the antibiotics prescribed for them.

A survey of specimens submitted to five English laboratories² showed that the most important contribution of the results to patient management was that they helped to exclude particular possible diagnoses. Urine examinations are a substantial proportion of the work of any microbiology laboratory, and it is clearly unacceptable that the reports on up to 20% of such specimens may be misleading. With the help and encouragement of our clinical colleagues we are reviewing both the rationale and the cost effectiveness of microbiological investigation generally. While the major areas of concern are "routine" screening tests, duplicated specimens on the same patient, and out-of-hours requests, substantial savings in time, money, and temper can clearly be made by avoiding self-inflicted clinical confusion like that described here. Reports on other specimens too may be misleading but faults are not generally as easily demonstrable as in urine.

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Sjögren's syndrome treated with bromhexine: a reassessment

Frost-Larsen *et al*¹ reported that bromhexine was effective in the treatment of Sjögren's syndrome. At a dose of 48 mg daily lacrimal secretion significantly increased when measured by the Schirmer test. Salivary flow did not improve, but the authors conceded that their methods for assessing salivary function were crude and of doubtful value. Nevertheless, they concluded that bromhexine was the drug of first choice in treating Sjögren's syndrome.

Patients, methods, and results

Using objective tests we investigated whether bromhexine significantly altered lacrimal and salivary function in 14 patients with Sjögren's syndrome,² including five with sicca syndrome, and in 11 healthy volunteers. Each patient or volunteer was randomly allocated either bromhexine hydrochloride 16 mg or an identical placebo to be taken by mouth four times daily for two weeks. After a further week without treatment patients and volunteers took the alternative preparation four times daily for a further two weeks. Resting and stimulated whole and parotid salivary flow rates were measured. Lacrimal function was assessed by the Schirmer test and lacrimal lysozyme concentration.³

There was no difference in the incidence of side effects reported by subjects when taking active or placebo preparations. Three patients thought that one or more of their symptoms improved while taking bromhexine and four while taking the placebo. There were significant ($p < 0.05$) increases in whole stimulated salivary flow rates in both Sjögren's patients and volunteers after treatment with bromhexine and placebo compared with initial flow rates (fig). Improvement was greater with placebo than with bromhexine in the patients, but the difference was not significant. No significant increases in either Schirmer test values or lysozyme concentrations were detected in response to bromhexine treatment. Seven of the nine patients with Sjögren's syndrome had higher salivary flow rates and seven higher Schirmer-test values with placebo. The patients with sicca syndrome did not show this trend.

Comment

The significant increase in whole stimulated salivary flow rates after bromhexine treatment in Sjögren's patients and healthy volunteers was no more than after the placebo, and is unlikely to represent a pharmacological effect on salivary secretion. Frost-Larsen *et al*¹ and Nahir *et al*⁴ were also unable to show that bromhexine increased the production of saliva. Similarly, no subjective improvement attributable to bromhexine occurred in our patients or those of Frost-Larsen *et al*.¹ We have been unable to confirm that lacrimal flow in Sjögren's syndrome is significantly enhanced by bromhexine. In Frost-Larsen's¹ series lacrimal fluid production rose particularly with bromhexine in nine out of 11 patients with Sjögren's syndrome secondary to rheumatoid arthritis or lupus erythematosus. In our series brom-

Salivary flow rates in patients and volunteer controls at initial examination and after bromhexine or placebo.

hexine showed no such effect; while the placebo was more commonly beneficial among patients with Sjögren's syndrome than those with sicca syndrome.

We have not found that bromhexine is effective in the treatment of Sjögren's syndrome, but harmless placebos may have a valuable place in its management.

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Parenteral nutrition at home in management of intestinal failure

Parenteral nutrition can now be continued for long periods and patients can be taught to continue treatment at home. In most cases the inadequacy of the gut is only temporary and feeding by mouth can be started again when the bowel has adapted. Rarely treatment has to be continued indefinitely. Several reports on home parenteral nutrition have come from North America and Europe¹⁻⁵ but not from the United Kingdom, although a few centres practise it sporadically. We have treated five cases of intestinal failure of varied aetiology by parenteral nutrition at home. The place of this expensive form of treatment in a society where health care is being subjected to tight cash limits requires careful evaluation.

Patients, methods, and results

Details of the five patients are shown in the table. The indication for prolonged parenteral nutrition was inability to maintain weight and normal