

Nutrition rehabilitation: numbers of children¹

Nutritional status (weight for age)	Admission	Discharge	Follow-up
Adequately nourished (>80%, Harvard mean)	0	1 (1%)	1 (1%)
I* malnutrition (71-80%, Harvard mean) ..	4* (3%)	10 (7%)	34 (24%)
II† malnutrition (61-70%, Harvard mean) ..	20* (14%)	45† (32%)	60 (43%)
III† malnutrition (<61%, Harvard mean) ..	116 (83%)	84† (60%)	45 (32%)
Total	140	140	140

*With oedema. †Without oedema.

essential in the management of protein energy malnutrition. Some form of nutrition rehabilitation can provide this, but modifications are necessary in different areas and controlled prospective evaluation would clarify the real benefits.

W A M CUTTING

London School of Hygiene and Tropical Medicine, London WC1

- 1 Cook, R. *Journal of Tropical Pediatrics and Environmental Child Health*, 1971, 17, 15.
- 2 Shah, P M. *Journal of the Indian Academy of Paediatrics*, 1971, 8, 805.
- 3 Cole-King, S M. personal communication, 1975.
- 4 Cutting, W A M. *The Child in the African Environment*, pp 387-397. East African Literature Bureau, 1975.
- 5 Beaudry-Darisme, M. and Latham, M C. *Journal of Tropical Pediatrics and Environmental Child Health*, 1973, 19, 299.
- 6 Beghin, I D. and Viteri, F E. *Journal of Tropical Pediatrics and Environmental Child Health*, 1973, 19, 404.

SIR,—In the attempt to salvage serious cases of malnutrition it is only the most myopic doctors who can persist with standard clinical methods without being concerned with the wider aspects of the problem. But for those medical and health workers who have tried to look beyond the sphere of pure clinical treatment the extent and complexity of the problem rapidly become apparent.

I am afraid that the immediate appeal of nutrition rehabilitation, referred to in your recent leading article (1 November, p 246), is as a palliative for many frustrated workers. It removes the problem one stage away from the precious paediatric ward, where malnourished children not only take up valuable space but frequently die despite the most intensive measures or take an inordinate time to recover sufficiently to be discharged. Nutrition rehabilitation units also often depend heavily on gift-food handouts, another favourite palliative for the headache of malnutrition. Centres of this kind give some relief to the donors but are of doubtful value in tackling the real problem.

It is easy when considering nutrition rehabilitation to be distracted by the "centre" with all its problems of structure, staffing, etc and miss the *process*, which must follow right back to the homes and communities from which the malnourished children have come and prove to be successful *there*. The problems vary not only from country to country but for the various cultural, social, and family groups within a community. A nutrition rehabilitation programme must carefully analyse each problem and test means of coping with it before including it in any teaching. Blanket nutrition teaching, which is the all too frequent pattern, is as dangerous and irresponsible as the indiscriminate use of antibiotics without a medical diagnosis.

Doctors must face the unavoidable reality that the chances of survival and full recovery

for a malnourished child and the future for further children depend largely on the means and ability of the parents to provide adequate care. Although health services may play a part in tackling the problems of malnutrition, the root causes are nearly always social, economic, or political, and as such must be dealt with at that level. It is an unfortunate irony that developments such as the "green revolution," although they have increased overall production, have widened the gap between the rich and the poor and have not resulted in equitable distribution. The mechanisation, irrigation, and fertiliser levels that are necessary can be afforded only by the wealthy and, being capital-intensive, reduce the number of jobs, causing further unemployment and poverty.

MICHAEL CHURCH

London School of Hygiene and Tropical Medicine, London WC1

Dietary fibre hypothesis

SIR,—On behalf of my co-editor, Mr Denis Burkitt, at present abroad, and the contributors to our book,¹ now published, we welcome Mr C L Copeland's letter (15 November, p 404) asking the Department of Health Committee on Medical Aspects of Food Policy to assess the dietary fibre hypothesis concerning several diseases of the large bowel and also diabetes mellitus and atherosclerosis. We suggest that large amounts of unrefined plant foods, especially all starchy foods rich in dietary fibre, may offer protection against these diseases.

White bread has many excellent nutrients and no toxic substances but it is harmful, in my opinion, because it lacks enough fibre, intimately mixed with the flour, and cell-wall structures (dietary fibre) in a close physico-chemical relationship with cellular contents, especially starch. In other words, to improve atherosclerosis² or diabetes mellitus³ one must eat very much unrefined starchy food of many different varieties. This is not possible unless one decreases very considerably all fats and sucrose. With such a diet bran is unnecessary.

Independently of my views doctors at the Long Beach Veterans Administration Hospital, California, have been treating severe peripheral vascular disease with this type of diet in a metabolic ward for six months. Thirty-eight patients were randomly divided into two equal groups. One group ate the usual low-fibre, high-fat, Western-type diet and received the approved drug therapy; the other group ate completely unrefined starchy foods (80% of energy content), fats, any variety (10%), and protein (10%) with no added salt or sugar. Their cholesterol intakes were less than 100 mg/day. The dietary-

treated group were encouraged to increase physical exertion markedly several times a day, stopping only when pain became intolerable; they came off all drug therapy as soon as possible. The control group of patients showed negligible improvement. The group treated by diet and exercise showed much improvement, which was statistically significant ($P < 0.001$); most have discontinued all drugs; their maximum walking distance has increased to many thousand feet; three who had angina have all lost it; of 13 diabetics, 11 are now off all hypoglycaemic drugs and/or insulin.⁴ The work has been extended to other studies and Mr N Pritikin has informed me that about 80% of maturity-onset diabetics respond well but that no improvement has occurred in younger diabetics considered to be of the juvenile type.

H C TROWELL

Woodgreen, near Fordingbridge, Hants

- 1 Burkitt, D P, and Trowell, H C, eds. *Refined Carbohydrate Foods and Disease: Some Implications of Dietary Fibre*. London and New York, Academic Press, 1975.
- 2 Trowell, H C. *American Journal of Clinical Nutrition*, 1975, 28, 798.
- 3 Trowell, H C. *Diabetes*, 1975, 24, 762.
- 4 Pritikin, N, *et al*, paper presented on 19 November 1975 at 52nd Annual Session of the American Congress of Rehabilitation, Atlanta, Georgia.

Irrigation of the vas for immediate sterility after vasectomy

SIR,—Urquhart-Hay¹ described a method of obtaining immediate sterility after vasectomy by irrigating by slow injection the proximal end of each vas with 2.5 ml of sterile euflavine 1:1000. The purpose of this procedure was to render unnecessary the two or three postoperative semen analyses at 8, 12, or 16 weeks and thereby reduce the inconvenience that such tests cause to patient, laboratory, or vasectomy clinic. Albert *et al*² recently reported the use of nitrofurans as the sperm-killing medium and concluded after only 24 patients had been studied that irrigation dispenses with the need to do subsequent semen analyses. The purpose of this report is to illustrate that these methods cannot guarantee immediate sperm death and therefore immediate sterility.

The technique described by Urquhart-Hay was exactly followed, but semen analyses were carried out at 8 and 12 weeks in all patients. In the 84th case in which this method was used examination of uncentrifuged semen at the eighth week showed the presence of motile sperms—2/3 per low-power field. Subsequent examination one and two months later of this patient's centrifuged semen showed the absence of sperms by this time.

This case illustrates that immediate sterility cannot be guaranteed by using vas irrigations, even though in most cases this procedure may hasten the onset of sterility. Therefore I conclude that postvasectomy semen examinations are still essential to confirm the absence of sperms in all patients.

J SLOME

London W1

- 1 Urquhart-Hay, D. *British Medical Journal*, 1973, 3, 378.
- 2 Albert, P S, *et al*, *British Journal of Urology*, 1975, 47, 459.