THE NUTRITIONAL STATE OF STAFF IN A LONDON SECTOR HOSPITAL

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The following observations upon the nutrition of 22 probationer nurses at a large London teaching hospital evacuated to the country may be of interest. They were made during the first three months of 1943, a time of year at which green vegetables are scarce and fresh fruit unobtainable. The subjects took all their meals in the institution, having no additions to their diet except occasional buns and sweets. The findings on a small group of laboratory staff at the same hospital who received home-prepared diets with full civilian rations are included for comparison. The results for the two groups are given in the following table:

		Vitamin C Excretion in mg.			Urea g. per 24 hrs.	Serum Protein %	R.B.C. in Mills.	Hb%
		Initial Level	After 250 mg. Once	After 250 mg. Daily				
Nurses	Means	13	26	88	17	6.6	4.85	88
	Coeff. of variation..	34	106	56	23	9	7	9
Laboratory staff	Means	21	83	141	26	6.8	5.16	102
	Coeff. of variation..	13	51	61	20	6	1	3

Blood Findings.—In no instance was the red cell count below the lower limit of normality for women (4.28 mills., Price-Jones *et al.*, 1931). The haemoglobin, determined by the Haldane method with apparatus conforming to the B.S.I. standard, gave an average of 88%, which falls below the lower limit of normality (90%, Price-Jones *et al.*), and much below the mean for healthy women of comparable ages (98%). The present findings correspond closely with those of Wills and her colleagues (1942) for a similar group of nurses. Although the degree of anaemia was never gross it might have accounted for the greater sense of fatigue experienced by the more anaemic subjects. It also showed that their iron intake was probably insufficient for this group of young women. The blood findings for the second group were more satisfactory, even allowing for the fact that five of the six subjects were men, and no sign of iron deficiency was present in any of them.

Vitamin C.—Excretion of this vitamin was determined by the method of Harris and Ray (1935). The urine passed during a period of 24 hours was tested as follows. The volume of each voidance was measured, and a 10 c.cm. sample transferred to a bottle containing 2 c.cm. of glacial acetic acid. These samples were collected four times daily, so that estimates could be carried out promptly. The vitamin C excretion was determined on three occasions for each subject: (i) on customary diet; (ii) after one dose of 500 mg. of ascorbic acid given 8 hours previously; (iii) after 250 mg. taken daily for seven days. The initial figures showed that the vitamin C level of all the subjects was low (see Harris and Ray, 1935), though none complained of any symptoms ascribable to this deficiency. After one large dose of ascorbic acid the average excretion rose to within normal limits. The rise in the average was, however, deceptive, as can be seen from the large coefficient of variation; a few subjects responded markedly, while 11 failed to improve appreciably. After treatment for seven days a satisfactory level was reached by all except one, who possibly failed to take the tablets regularly. It may therefore be concluded that the diet taken by these nurses was deficient in vitamin C. Several of them volunteered the statement that they felt better and "more alive" after receiving the ascorbic acid for a week. The results for the group of laboratory workers showed a consistently better rate of excretion. Initially all fell within the lower limit of normality, and after the ascorbic acid supplements their excretion rate rose higher than that of the other group. This shows that their original diets contained a larger amount of this substance.

Urea Excretion.—The estimations of urinary urea were performed on 24-hour samples as a guide to the protein content

of the diets. Calculated on the assumption that urea excretion $\times 2.9$ = protein intake, and neglecting the small loss of nitrogen in the stools, etc., it appears that this group of nurses were receiving about 50 g. of protein daily. This is probably too low an intake (see Gaunt, 1943), especially as a considerable proportion was of vegetable origin and consequently low in certain essential amino-acids. The urea excretion for the second group was considerably higher, the calculated daily protein consumption being 76 g., which should be adequate even though low in animal proteins.

Serum Proteins.—These were estimated by a nesslerization method. In one nurse only (in whom it was 5.8 g. %) was the serum protein below the lower limit of normality. The relatively high level of serum proteins was not unexpected, for with low-protein diets but without starvation they appear to be sustained at the expense of other body proteins.

REFERENCES

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MEDICAL SICKNESS AND LIFE ASSURANCE

The annual meeting of the Medical Sickness, Annuity and Life Assurance Society, Ltd., was held on June 28, Mr. R. J. McNeill Love, F.R.C.S., Chairman of Directors, presiding.

The Chairman said that the new business in the Life Assurance Fund had increased from £141,188 to £267,303, and the total of this Fund now stood at over one and a half millions. All policies for life assurance effected since the outbreak of war bore an exclusion agreed upon by the Life Offices Association that in claims directly or indirectly due to the war the sum assured should not be paid, but the premiums should be returned. The words "indirectly due to war," however, had opened up such a wide field of conjecture and discussion that the directors of the Society had decided in principle that claims directly due to enemy action should follow the exclusion, but that all other claims should be paid in full so far as the funds of the Society allowed.

In the Sickness Fund the premiums were slightly higher, and, the year having been moderately healthy, there was only a very slight increase in claims. The funds of the Society had increased by £222,921, and now stood at £2,578,239, which was one and a half millions more than at the time of the Society's jubilee in 1934. The holding in British Government securities, which represented 36% of the total investments, had increased during the year to £955,904. All new money and redemptions were invested in 3% Savings Bonds.

In a reference to the important discussions now taking place on the Beveridge Report, the Chairman said that the proposed abolition of private practice as at present carried out, and the transformation of doctors from the complete freedom they had always enjoyed to the restricted activities of salaried civil servants, opened up a startling prospect. What was to happen to the capital of thousands of doctors which had been invested in the purchase of a practice or a share in a partnership? Members might be assured that the Board was closely following the discussions now taking place so far as the interests of its members were concerned. He ended with an appreciation of the services of the manager and secretary, Mr. Bertram Sutton, and staff.

At a recent meeting of the Association of Industrial Medical Officers Mr. J. L. Smyth, whose work has brought him into contact with industrial doctors, spoke on the education of the industrial medical officer. He said that the doctor in industry must bring to his work a wide knowledge of people, of processes, and of the substances used in various industries, a knowledge which ought to be acquired before he began his work in the factory. It was the doctor's province to see that the human machinery was properly cared for. He should spend time in the works rather than wait for patients to come to him. It was his duty to interpret and bring to the notice of the management the latest results of research in industrial hygiene. A works doctor should not hold the position of referee for the local county court. Dr. Frank Gray spoke on the co-operation between the general practitioner and the industrial medical officer. He said it was important that continuity of treatment should be secured. Industrial medical officers had special knowledge of factory conditions and their effects on health and of the patient as a factory worker, while the general practitioner understood the patient's home circumstances, his family, his diet, his clothing, and, even in wartime, the conditions of life of more than half his day. The Ethical Rules for Industrial Medical Officers drawn up by the B.M.A. were an excellent basis for the co-operation between the two. It was intended that the letter of these rules should not be too rigidly adhered to; it was the spirit behind them that mattered.