

The Effect of Multi-Vitamin Tablets and Powdered Milk

ON CONVALESCENT PATIENTS WHO HAD RECOVERED FROM PULMONARY TUBERCULOSIS

BY

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The Rhodesia Association for the Prevention of Tuberculosis has been supplying us with multi-vitamin tablets and powdered milk to give to African patients on being discharged from the sanatorium, and again when they reported for checking every three months.

As this involved considerable expense, it was not possible to give them to all discharged patients. They were only given to the patients who appeared to need them most, i.e., those patients who had the worst symptoms on admission, those who appeared underweight on discharge, or patients who had lost weight on reporting, and in some cases where their home conditions appeared to be very poor and where they were unlikely to obtain an adequate diet.

Five hundred and thirty-five cases have been reviewed for a period of three years; this is made up of 148 cases who received multi-vitamin tablets and powdered milk and 387 cases who did not.

The trial, which can be regarded as a pilot scheme, was commenced on the 18th March, 1955, and finished on the 18th March, 1958.

This number, 535, includes all patients who had been discharged during that period, but did not include those who had absconded or had been removed by relatives, nor those who had been dismissed for repeated bad behaviour and were not taking advantage of the sanatorium treatment, because the patients in those categories did not report for periodic checking.

Nor were patients included who were discharged too late in 1957 to be expected to report for a check up by the 18th March, 1958.

Patients are only discharged from the sanatorium when clinically and radiologically they show no sign of activity and have had negative sputa for seven consecutive months.

All types of cases are included in both groups, but those receiving milk and vitamins appeared to have the worst prognosis on discharge. It should also be remembered that it is only very few cases like the police, medical orderlies, etc., that can be compelled to report for checking, and even in these cases the government medical officers in the districts may prefer to look after them themselves.

The remainder come from all over the country and even neighbouring territories, and there are so many of them that it is quite impossible to enforce their three-monthly reporting.

It should also be appreciated that as patients were being discharged all through the three years period under review, those who were discharged later had less occasion to report, so that the figures given below are less depressing than they appear.

Those who received milk and vitamins were given 100 multi-vitamin tablets. Each tablet contains: vitamin A, 5,000 units; vitamin D, 800 units; vitamin B₁, 1 mg.; vitamin B₂, 0.5 mg.; vitamin B₆, 0.25 mg.; nicotinic acid, 10 mg.; vitamin C, 25 mg. These approximate the daily requirements of an adult, so that they received enough tablets to cover their vitamin need for over three months.

At the same time they were given a 5 lb. tin of full cream powdered milk. The powdered milk contains 28 per cent. milk fat, 26.2 per cent. milk protein, 38 per cent. milk sugar, 5.8 per cent. milk salts and 2 per cent. moisture.

Although the makers recommend two and a half heaped tablespoons to a pint of water, we found that one and a half level tablespoons made a reasonable pint of milk.

If these latter instructions are followed, one 5 lb. tin could make 53 pints of milk. At the

Table 1
ATTENDANCE FOR THREE-MONTHLY CHECK-UP

	V.M. Patients	O. Patients
Number	148	387
Reported	116 (78.4%)	188 (48.6%)
Never reported	32 (21.6%)	199 (51.4%)
Number of visits	296—average 2.55	344—average 1.83

Table II
GIVING THE NUMBER OF SUBJECTS WHO DIED

	V.M. Patients	O. Patients
Number of patients	116	188
Number of re-admissions	28 (24.1%)	44 (23.4%)
Re-admissions and since discharged	21 (18.1%)	21 (11.2%)
Re-admissions still in hospital	7 (6%)	23 (12.2%)
Re-admissions who have died	2 (1.7%)	5 (2.7%)

worst, it is equivalent to a glass of rich milk a day for that period.

During the first year, 1955, we used to give three tins per patient, but we later decided that if we gave such a large amount to commence with, the patients might waste it or sell it; we also had to consider the expense.

RESULTS OF THE TRIAL

One hundred and sixteen out of the 148 patients (78.4 per cent.) given multi-vitamin tablets and powdered milk, from here on referred to as the "V.M. patients," reported for checkings on one or more occasions.

Of the other patients not receiving vitamins and milk, from here on referred to as "O. patients," 188 out of 387 (48.6 per cent.) reported for examination on one or more occasions (see Table I).

The results are much in favour of the V.M. patients, but the reason is probably psychological; they either thought that more interest was being taken in them or the result of the old principle of giving a "sweetie" to the good boy, encouraging him to behave well in the future.

Whatever the reason, the number of O. patients who did not report for re-examination were two and a third times as great as the V.M. patients. Also the number of visits they paid when they did report was only 71.8 per cent. of the V.M. patients.

WEIGHT CHANGES

These figures are estimated on the number of patients in both groups who reported for checking, as there is no data available for those who did not.

The figures in both groups are remarkably consistent, although the figures of the V.M. group are better than the O. group; the differences on the whole are so small that they are of no statistical significance.

It is obvious, however, that the average patient in both groups lost weight on leaving the sanatorium—3.25 lb. in the V.M. group and 4.15 lb.

in the O. group, and it should be remembered that the V.M. group had the worse prognosis and they not only held their own with the O. group, but the average loss of weight of the former was 78 per cent. of the latter—about three-quarters of the O. group.

These figures were calculated upon the difference in weight between that of discharge and the first check up, or the first time they were given milk and the next check up.

RELAPSE RATE

Again these figures have to be estimated upon the number of patients who reported for their examination.

This table definitely shows that although the relapse rate was approximately the same in both groups, the V.M. group did twice as well as the O. group after re-admission (see Table II).

This may be due to two factors:—

- (1) The vitamins and milk may have increased the resistance of the former group.
- (2) The inducement of vitamins and milk may have made the former group report more frequently, so their lesions were not so far advanced on re-admission.

In conclusion, it has been shown that although the giving of vitamins and milk had little obvious improvement in changes of weight, it had a very definite beneficial effect on the number of patients reporting for checking, since three and a half times as many patients reported as those remaining away, while in the other group less than half reported.

Also the patients who relapsed who were receiving vitamins and milk did twice as well as those who did not.

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