

# Infant Malnutrition

BY

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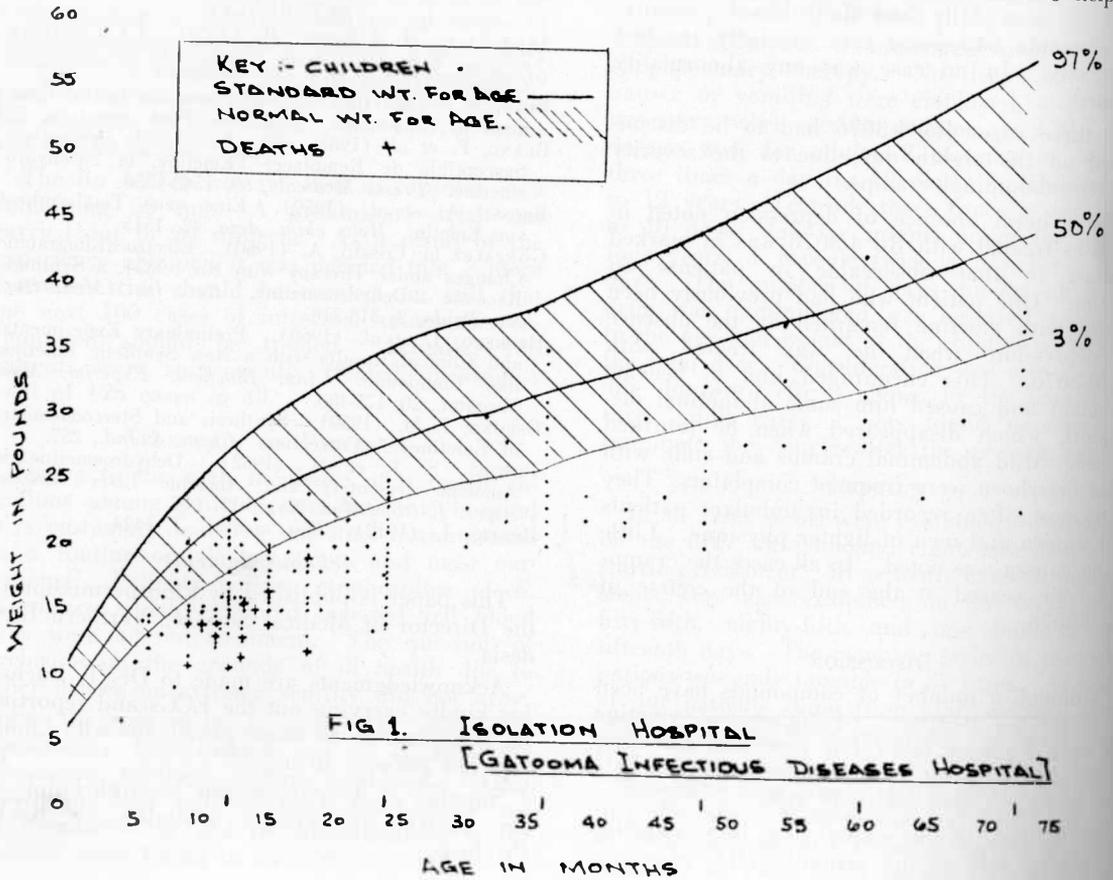
It is widely acknowledged that malnutrition, and in particular protein malnutrition, is widespread amongst the African population, presenting the country with a serious problem of national importance. This problem, with special regard to the detrimental effect malnutrition has on the lives and health of African children, is one which must concern any responsible community.

As the protein requirements of an infant far surpass those of an adult, it follows that the children are the ones who suffer most from the protein-deficient diet of the average African. The "most critical period is the post-weaning phase," an age for which, unfortunately, there is little or no provision made at present. Measures to relieve the situation have been limited

mainly to the provision of meals or milk for school age children. It is with the pre-school aspect of the problem that we should concern ourselves the most.

The crying need of pre-school age children for protein supplements is distressingly apparent to all those responsible for treating Africans in hospitals. Large numbers of these apathetic, underweight, oedematous toddlers occupy beds for a considerable length of time, requiring vast quantities of expensive drugs, material and attention. Should they survive and be discharged after several months, it is not unusual to have these unfortunate children return later in the same pitiful state, only to repeat the whole costly business or to die. In the meantime how much unseen damage is being done to undermine their health in later years, and at what ultimate cost to the country?

In South Africa, where recently, in view of the seriousness of the problem, the "disease" of kwashiorkor has been made notifiable in an attempt to determine its extent and to help in



finding a solution, it has been estimated that the cost of treating one such patient is £300, while the cost of prevention is as little as 5s. to 10s. per month. These estimates clearly indicate that from an economic view alone it would greatly benefit the country to take prompt and adequate steps in dealing with the situation.

In order to gain some idea of the extent of malnutrition amongst the children of the local population, the opportunity was taken to weigh 191 consecutive admissions to the Gatooma Infectious Diseases Hospital during a recent measles epidemic and to ascertain the children's ages as accurately as possible. These figures were then plotted on the standard paediatric weight for age charts, which were compiled by the Children's Medical Centre, Boston, and are applicable to all racial groups.

The resulting graph (Fig. 1), adapted to show ages from birth to six years, presents the alarming picture that slightly more than three out of every four admissions were underweight or, to be more accurate, under the weight

applicable to all but 3 per cent. of normal children). It was realised that this result must have been exaggerated by the fact that many of the children were very likely to have lost a certain amount of weight during the course of the illness prior to their admission, and also that some selection had probably occurred in that only the more severely ill children were brought to the hospital. Even allowing for this bias, it does suggest an appalling degree of malnutrition amongst the general population in the district.

Although this survey failed in its immediate object of giving an accurate idea of the situation in the district, it does highlight the disastrous effect of measles in malnourished children. Of the 191 cases admitted to the hospital, 146 were underweight (76 per cent.), and of the latter group 14 died—all children who were under two years of age. None of the normal weight children died. Many of the underweight children were extremely ill, and of these some would doubtless have died had they been treated at home and not had the benefit of professional

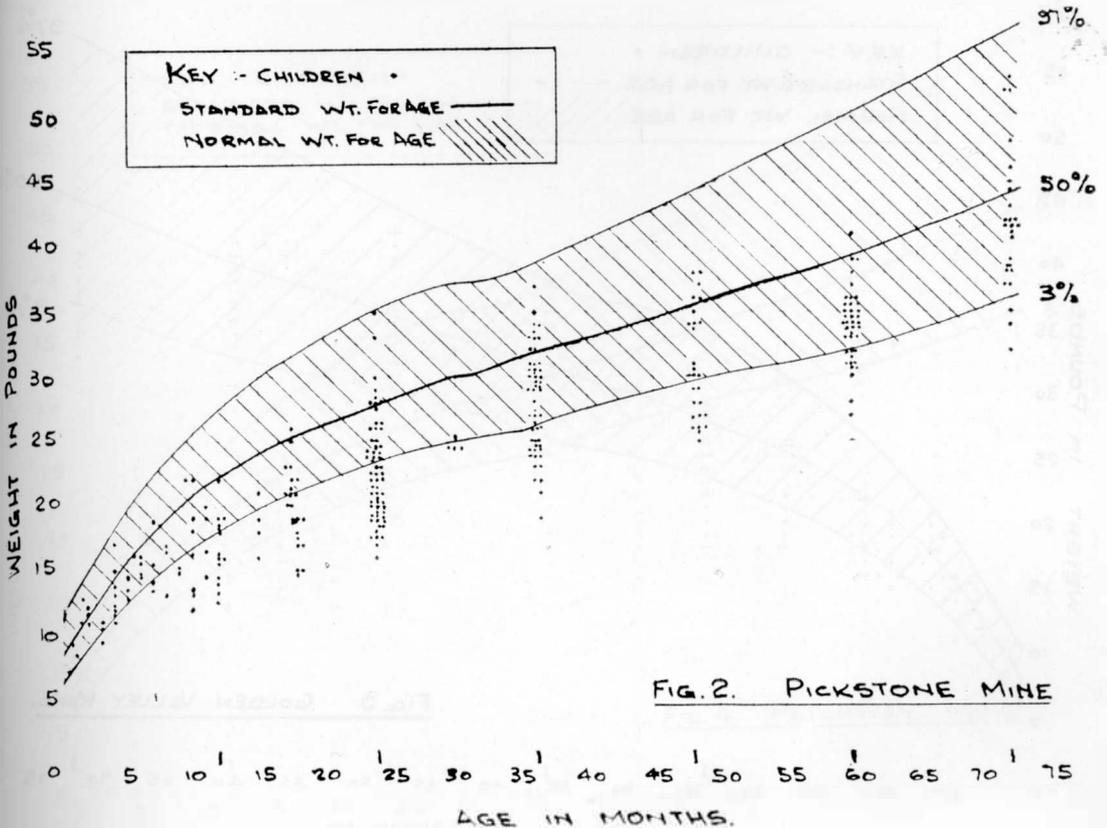


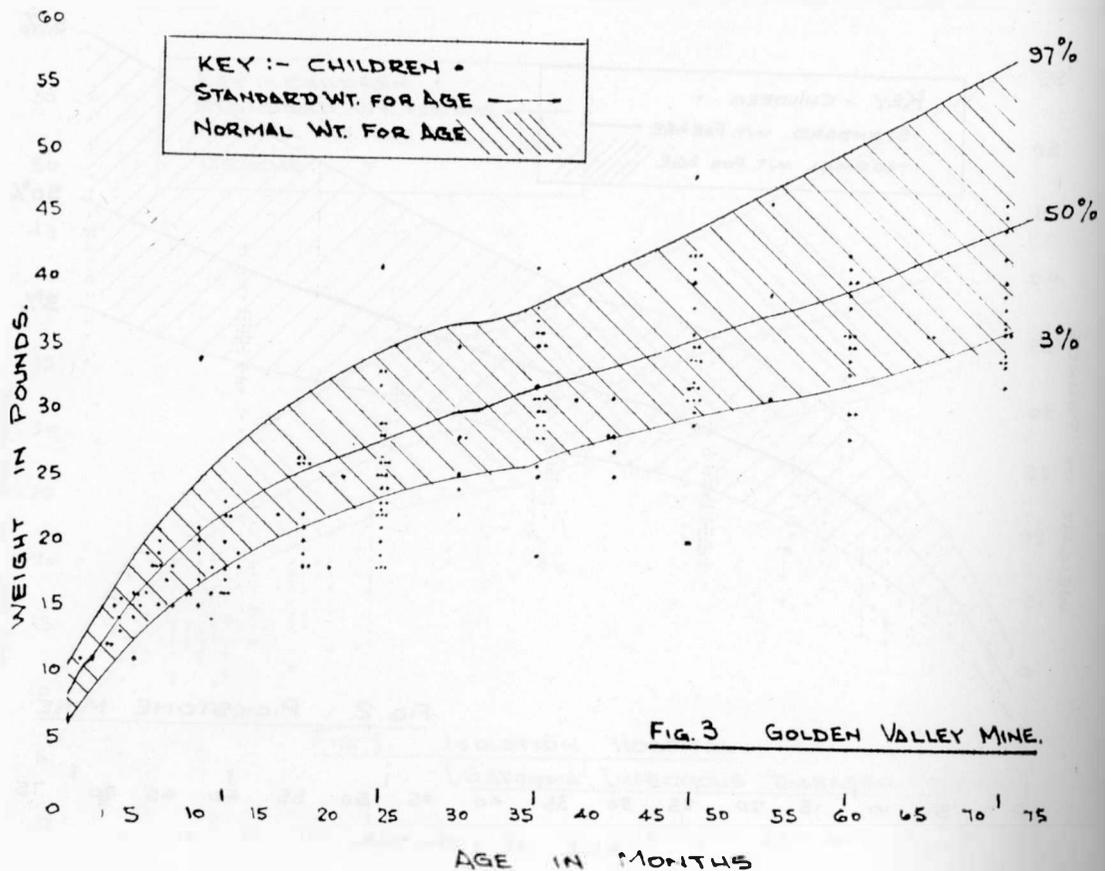
FIG. 2. PICKSTONE MINE

nursing in the hospital. Where there were complications, to which the underweights appeared more susceptible, the recovery of those in the normal weight range took roughly as long as in European children, whereas the underweights took three to four times as long. These observations lead to the conclusion that malnutrition appears to render the measles sufferer more liable to a severe illness and prolongs their rate of recovery, and few, if indeed any at all, would dispute that this would apply to all infections.

It was then decided to conduct further surveys with the object of obtaining a more accurate picture of the real state of affairs. The areas selected for this undertaking, three mines and a farm, provide many of the patients using the Infectious Diseases Hospital, Gatooma, and were chosen for the reason that with the co-operation of the authorities it was possible to weigh *all* the children of each area without causing any political repercussions and also to estimate their ages with a reasonable degree of accuracy.

Of these surveys, probably the most representative of the true picture owing to its isolated position is that of the Pickstone Mine, which shows on its graph (Fig. 2) that 39 per cent. of its children are underweight. However, this percentage may be slightly lower than that of the average population, because the mine had been giving additional protein foods to the underweight children for a few months preceding the survey.

The figures for the Golden Valley Mine when plotted on the graph (Fig. 3) indicate that 27 per cent. of these children suffer from malnutrition, and this despite the fact that this mine has had a compulsory milk scheme for the last two years. Here the mothers are required to attend the clinic daily, and a half to one pint of fresh or powdered milk is fed to the child on the spot. In addition to this there is a mine farm available where any employee may grow whatever he wishes, with seed and fertiliser provided by the mine. Also, in view of the unco-operative attitude of many of the parents.



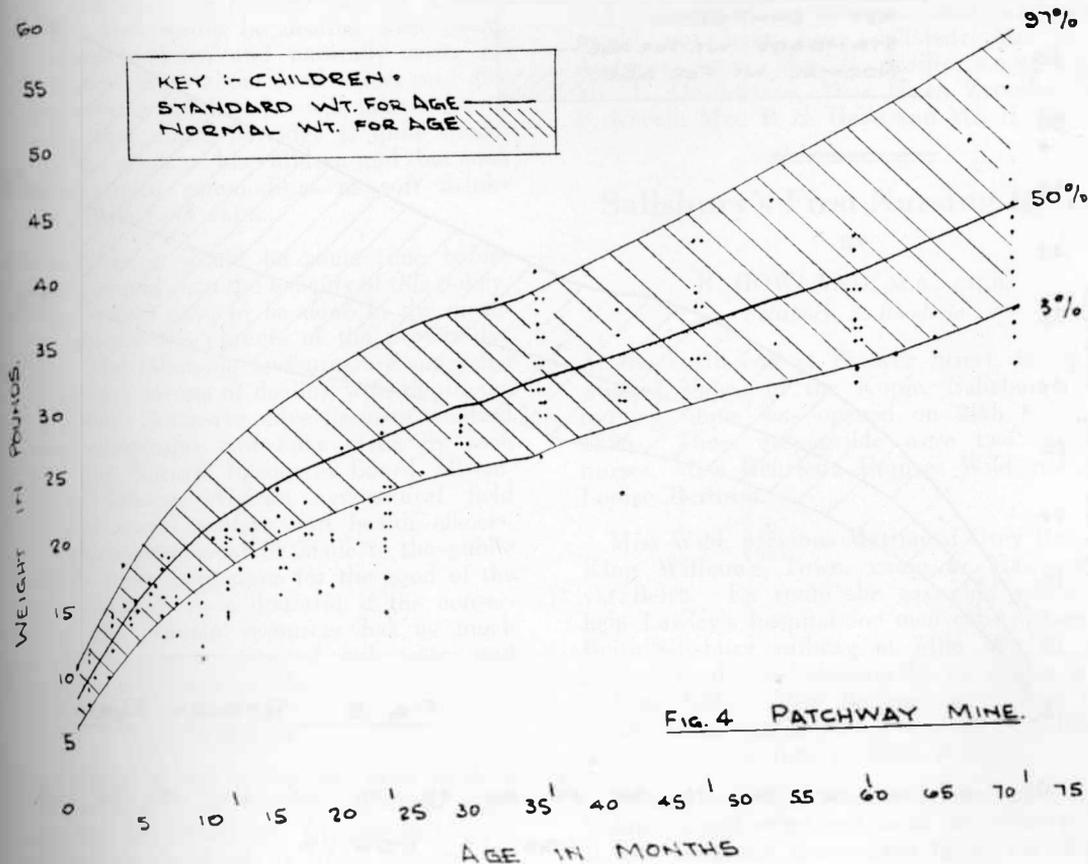
who cannot see that maize alone is quite insufficient for the needs of their children and who balk at not being allowed to take the milk home, presumably for use in father's tea, it was decided to take disciplinary action against any employee whose child appeared to be suffering from kwashiorkor. But nevertheless, of the 185 children weighed, 50 were found to be underweight.

Because of these measures it was naturally expected that the percentage of underweight children here would be much lower than that of the Patchway Mine which, although directly contiguous to the Golden Valley, has only recently introduced a milk scheme for its pre-school age children and also has no land available on which the employees may grow supplementary crops. However, this supposition proved to be incorrect, as the Patchway chart (Fig. 4) shows that 30 per cent. of its children are underweight—a bare 3 per cent. more than the Golden Valley. The main reason for this seems to be the generally unco-operative attitude

of some African parents, augmented by a widespread ignorance of basic food values.

Regarded in the light of the South African opinion that rural children are worse off than their urban counterparts, the Tisbury farm results (Fig. 5) show a surprisingly low percentage (23 per cent.) of underweight children for a rural community. This, however, is probably explained to a large extent by the provision of additional rations by enlightened employers, who take an active interest in their labourers' welfare, and also the opportunity for the employees to grow their own crops. It is more than likely that the position in the African reserves, where they are having to fend for themselves, is far worse.

Making full allowances for any inaccuracies, the results of the surveys suggest that the percentage of malnourished children in the district is alarmingly high. In the communities which are enjoying the advantages of supplementary protein schemes the surveys indicate that at least 30 per cent. of the children are underweight.

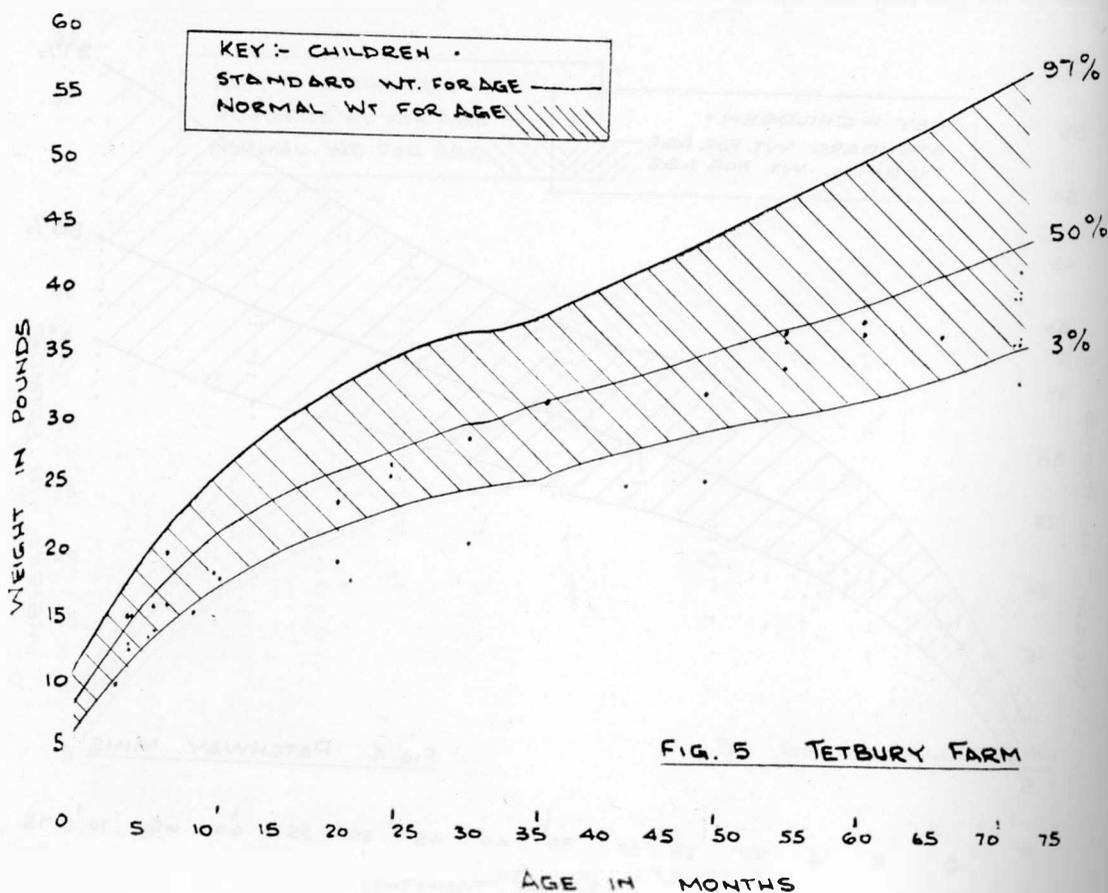


so it is reasonable to suppose that the percentage of underweight children amongst the general population, the majority of which are not enjoying these benefits, must be much higher. Unfortunately, for various practical and political reasons, it was not possible to conduct a survey in one of the African reserves or in a municipal township, but it is not unreasonable to assume that the conditions here would be much worse, because as yet little is being done in these areas to alleviate the plight of the pre-school age children. These results also do much to show that this distressing state of affairs is not due solely to the lack of means, but also to the average African's patent ignorance of the correct diet his children should have.

Admittedly the accuracy of these surveys leaves much to be desired, particularly in determining the ages of children who come from a race to whom time is immaterial and who consequently are notoriously vague about the exact ages of their progeny. Any doubts as to

whether the weight age charts would be applicable to this racial tendency may partly be resolved by studying the graphs, which show that any general loss of weight occurs only after the first eight or nine months of life, when the babies are no longer being breast fed. The one exception to this is Fig. 1, but it must be remembered that these particular babies were ill with measles at the time.

The obvious solution to the problem would appear to be the introduction of protein foods to the infant before and after weaning, but this, as can be seen from the reaction of the African employees of the Golden Valley mine, would be difficult to implement successfully. Any national subsidised scheme providing free protein supplements in the form of milk, meals or rations must of necessity enjoy only a limited success, because although these schemes may be appreciated by many, much of the population cannot see the need for these additions to their children's diet and coercion would only serve to antagonise



an ignorant and superstitious population, providing useful material for any aspiring politician. It would also be restricted to whatever funds and facilities were available and would encourage the African to depend on the local authorities to relieve him of the responsibilities of providing for his family instead of being a self-reliant, capable individual who is an asset to the community. This latter objection also applies to the running of soup kitchens, etc., by municipalities on beer hall profits, as the father, relieved of the responsibility of feeding his children, is encouraged to drink more beer.

From these arguments it seems clear that the only real and lasting solution to the problem would be to make the parents understand that in order to have healthy children they must provide a suitable diet, and that this is their responsibility and theirs alone.

The most economical and practical way of achieving this, and one which will meet with the most success in the long run, would be to introduce the subject into all the schools in the country, making it an integral part of African education. One would be dealing with young minds eager to learn and naturally more receptive to new ideas about food values and diet than the average adult, who will take a lot of convincing that maize porridge is quite inadequate for the needs of his children and that such widely advertised commodities as soft drinks have very little food value.

However, as it would be some time before the country would reap the benefits of this policy, something would have to be done in the meantime to educate the parents of the present-day children. The following measures are suggested as a temporary means of dealing with the immediate problem: intensive advertisement assisted by films, campaigns and talks given by such bodies as the Natural Resources Board, all employers of labour, African agricultural field officers and social welfare and health officers, and a wide appeal could be made to the public to assist in these campaigns for the good of the country; although it is doubtful if the conservation of our human resources has as much appeal as the conservation of soil, water and other media on which we live.

#### SUMMARY

The purpose of this article has been to show the high percentage of malnutrition which exists amongst the pre-school age African children—a regrettable state of affairs which can only be

allowed to continue to the detriment of the country and to which the most effective solution would be to teach the African the principles of diet. This could be done at a relatively low cost and would pay enormous dividends. It must be clear that it would be in the interests of the country as a whole to promote the social welfare of the African community, so that instead of being a constant drain on the economy of the country it would be an asset.

In conclusion, it must not be forgotten that these figures are not simply a question of statistics, but represent young children who, through the ignorance of their parents, are being denied the health which is their birthright.

#### REFERENCE

- HANSEN, J. D. L. (1962). *Nutrition, with Special Reference to Kwashiorkor and Protein Deficiency*. South African Institute of Public Health Twentieth Annual Congress, East London, page 67.

#### Acknowledgments

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