

Measles and the Birth Rate

BY

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It is not quite 30 years since the principal author of the survey of a thousand families in Newcastle-upon-Tyne, Sir James Spence, stated in the preamble that the proximate cause of malnutrition was not the marginal diet of the children concerned, but the fact that they contracted disease, largely preventable disease, under conditions which precluded satisfactory recovery. Carl Taylor and his associates in their monograph on "The Interaction of Nutrition and Disease" suggested similarly that the deleterious effects of disease were largely responsible for the malnourished state of the child population of the Third World. They went further suggesting that the stunted physical and intellectual stature of adults in poor economies constituted a significant element in the intractable problem of the so-called developing or underdeveloped countries. Myrdal and his school of development economists have also challenged the concept that the investment of capital in the form of earth works of various kinds in underdeveloped areas was the automatic solution to promoting development. They suggest that possibly an effective health service would be a better trigger for development than simple cash investment.

It may strike many people as little short of ludicrous that we should be paying so much attention to measles. The hard fact remains that in the City of Salisbury until relatively recently the commonest cause of death in the isolation hospital was measles and its complications. Although no detailed surveys have been carried out, the overwhelming impression among the staff of the department was that measles contributed more than anything else not only to the death of young children but to the appearance of frank malnutrition. On many occasions when, as a group, we have sat down to discuss the priorities within the boundary of the city, we have been driven inexorably to the conclusion that measles is responsible for a large portion of our hospital costs, and remember we run only the infectious diseases hospitals of the city. Our colleagues at Harare Hospital were well aware that in the majority of cases of malnutrition admitted to their wards and to their nutrition unit, antecedent measles was a feature of the clinical history.

Those of us who were on call at night and at weekends for the local isolation hospital were well aware that by far the commonest reason for call out both by day and particularly by night was the breathless child with measles. Discussion with the community nurses and health visitors substantiated these impressions. As a department, we made a decision which we admit was based very largely on our clinical intuition and our experience. The decision was that we should eradicate measles. Justification for this decision was that in addition to preventing a great deal of mortality and morbidity, it would also enable us to save a substantial sum of money in hospital expenses. Furthermore, Taylor and his associates in the monograph quoted earlier have said "The best demonstration of the need for family planning is that children shall survive". If this statement is true, and if it is true in addition that the major problem faced by the developing countries is the population pressure, then the eradication of measles might serve, we thought, a very useful purpose in demonstrating the concern of the City Health Department for the health of infants, and perhaps result in a wider acceptance of family planning. After a good deal of discussion we decided to do two things. In addition to continuing to offer measles vaccine at all infant and child welfare clinics, well baby clinics if you like, we decided that we would ensure that every child under five years of age who attended a primary care clinic for any reason whatsoever, was immunised against measles. To this end, we required a medical assistant to sit in the foyer or on the verandah of a clinic and ask every mother of every child two questions. First of all, had the child had measles, and secondly, had the child had measles vaccine. If the answer to these questions was in both cases no, then the child was vaccinated against measles immediately regardless of what else may have been wrong with it, which at this stage, of course, was not known as the child had not been examined. We also decided that if the threshold for eradication of measles was to be reached, it was essential to go out into the community and vaccinate all unvaccinated children resident in the city. For this purpose, a mobile clinic, a loudspeaker van, a team of nurses and health assistants aided and abetted by our Health Education Unit, toured each township from street to street gathering people together to ensure that every preschool child was immunised against measles. The figures for the number of doses of measles vaccine

used indicate that in 1972 we did approximately 1 500 measles vaccinations in the African areas of this town. In the following year, we did about 3 500; in 1974 we did 8 500; and in 1975 we did 20 500 measles vaccinations among the child population of this town. This gives a cumulative total of vaccinations of getting on for 40 000 which is a significant fraction of the population under five, which totals about 50 000.

The occurrence of measles has always been a prominent reason for admission to the isolation hospital. In 1974, approximately 1 300 cases of measles were admitted.

The exact cost of each patient is not known but it is unlikely, in view of the severity of most of the cases and in view of the fact that we were already screening out all children who could be treated as out-patients, that any case cost less than about \$20,00 in terms of hospital expenses and therapy expenses. In 1975, while at the same time pursuing the policy of treating all patients as out-patients who ran no extra risk by being so treated and carrying on this very intensive mass measles vaccination campaign, we admitted just about 350 cases of measles. We estimate that this has resulted in a saving in the isolation hospital of approximately \$20 000 — this is based not only on the estimate of \$20,00 per case, but also on an audit of staff expenses, drugs, dressings and food.

At the same time as we have been pursuing this policy with regard to measles, we have also, in our primary care clinics where we have a total of about three-quarters of a million attendances per year, most of them children, been pursuing a policy of publicising the well baby clinics, and directing every mother's attention to the importance of promotive and preventive child care. As an example, the attendances at the well baby clinics rose from a figure of about 60 000 in 1973 to about 150 000 in 1974, and have stayed at the high level of 150 000 in 1975. We have seen, in addition to a decline in the prevalence of measles, a significant decline in the prevalence of whooping cough although this remains a relatively important cause of mortality. Poliomyelitis is an uncommon disease, diphtheria is for practical purposes unknown, and neonatal tetanus occurring within the boundaries of the city is uncommon. We have, therefore, succeeded in controlling the majority of the common preventable childhood ailments.

The World Bank report published recently on health services suggests almost as an after-

thought that perhaps the failure of the birth rate to decline in response to increasing child survival, i.e. a decline in the infant mortality rate, may be due to the failure to provide an efficient and accessible family planning service. This city has, we think, an efficient and certainly an accessible family planning service. When we came to analyse the figures for 1975, we were struck immediately by the unprecedented rise, not only in the number of attendances at our family planning clinics, but in the total amount of contraceptive material given away in the city. The figures suggest that we have had a 60 per cent. increase in contraceptive practice in this town between 1973 and 1975. It is the purpose of this paper not to enter into controversy about whether these two statistics can be related causally. For our purpose, it is sufficient to suggest an association between these two factors. The first that infectious disease in childhood, in particular measles, is no longer an important cause of mortality among young children, and the second, that family planning practice appears to be gaining ground at a significant rate. When we say "at a significant rate", it is worth stressing that between the Family Planning Association in their premises at Spilhaus and elsewhere and the City Health Department, we estimate that about 20 000 women years of contraception have been dispensed to the population of this town and that this is, if all the people originated within the town, very nearly a third of the total number of fertile women in the town.

We are also aware that in the maternity units, depo provera immediately after birth of the baby is becoming increasingly acceptable. In 1974, it was estimated that about one-quarter of the women left the maternity unit having been given their first injection of depo provera. In 1975, it is suggested that this figure has risen in some areas to approximately half of all the women delivered in the Salisbury City Health Department's maternity units. It would be unwise for us to limit our view of this matter simply to the narrow field of the eradication of particular diseases. As I see it, what has happened in the past five or more years in this town is that the City Health Department has become increasingly concerned about the health of the population, particularly the child population. It has been our intention not only to be concerned, but to show our concern. We believe the eradication of measles to be a determined effort, not only to eradicate a specific disease, but also to demonstrate our intense concern for the survival of

children. Alongside this process has come increased acceptance of family planning.

We would like to conclude by quoting again what professor Carl Taylor and his associates have said, "that the best demonstration of the need for family planning is that children shall survive". The priority, above all else, of the developing world must be to limit population growth. It has been demonstrated, beyond any reasonable doubt that this cannot be done by punitive or bulldozing methods. We are suggesting from the City Health Department that a policy of active concern about child health is a fruitful procedure. It cannot, of itself, solve the whole problem. In the same way the population growth rate is not entirely the responsibility of the health services of any country. Population deplosion or decline in the birth rate can only be achieved by socio-economic movement upwards on a broad front in terms of housing, wages, education, nutrition and health. However, it would seem fairly likely that the City Health Department's services are playing their part in promoting a decline in the birth rate and that the reason for this, silly as it may sound, is very largely the decision to eradicate measles.
