SECOND CARNEGIE INQUIRY INTO POVERTY

AND DEVELOPMENT IN SOUTHERN AFRICA

Dietary supplementation as preventative health treatment in needy populations

by

M A Kibel, A D Moodie and
I Robertson

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DIETARY SUPPLEMENTATION AS PREVENTIVE HEALTH TREATMENT IN NEEDY POPULATIONS

I am presenting for discussion an overview of nutrition policy as it applies in the Cape Town area from which all examples are drawn. I hope that this will have some general relevance.

There are two opposing attitudes towards responsibility for the health and welfare of children. The one decrees that it is the State which must ensure that optimal development of its future citizens is possible; the other that parents themselves are responsible for the children they produce. It is well to accept that the latter is the policy adopted by the State in South Africa. Thus any intervention in the field of nutrition, necessitated by special circumstances, is viewed as an erosion of that philosophy and must be hedged with restraints. The failure of the fortified bread scheme and the abuse of the School Feeding Scheme are considered to justify such caution. So-called "hand-outs" are not acceptable but preventive measures may be justifiable. Certain statutory provisions for preventing malnutrition do exist in the form of both direct and indirect intervention.

Direct Intervention

i. The issue of skimmed dried milk.

The Department of Health and Welfare is not legally empowered to undertake any feeding schemes as such, but it does supply free skimmed dried milk as a form of preventive treatment to infants and pre-school children who attend clinics and are considered to be at risk of severe nutritional breakdown.

ii. Hospital care

This is widely available to victims of severe malnutrition and nutrition-related conditions as outpatients and in-patients and in resuscitation wards. The latter have been a life-saving innovation and treatment is followed by special care.

Indirect Intervention

Various indirect measures have come into existence through awareness of the multifactorial causation of child malnutrition which is well-established, viz.

Depressed economic circumstances:
due to low earning power and a variety of other factors.

A serious housing shortage:
causing overcrowding, poor hygiene, maternal exhaustion and recurrent and multiple infections in children, which interact with malnutrition and aggravate it.

Widespread ignorance:
which implies both a low parental standard of school attainment and a deficient knowledge of child care, breast feeding, family-planning, hygiene, food values, budgeting, faulty cultural practices, etc.

General social disorganisation:
including breakdown of family life, non-support, over-large families, illegitimacy, acoholism, delinquency and, in many population groups, the effects of a migrant labour system - which are dealt with in other reports.

Thus, indirect measures to combat the above, aim at long-term prevention of malnutrition and take such forms as:

i. A wide network of Child Welfare Centres, (or mobile vans) staffed by Community Health Nurses, to supply advice, immunization, full-cream milk at cost price and subsidised skimmed dried milk, apart from that which is supplied free to severe cases. The introduction of the Growth Card, a home-based medical and growth record of the infant's progress from birth, has great potential as a preventive measure.

ii. Day Care Centres, run by local authorities (and voluntary organisations) which provide, where available, good care for the pre-school children of working mothers.

iii. Health education

Trained health educators are employed by the Department of Health & Welfare and certain local authorities (and voluntary organisations) to give instruction in dietetics, budgeting, family planning, etc. Limitation of family size is recognised as having an important bearing on child nutrition.

iv. Housing

Although the housing problem has been compounded by group removals, considerable sums are devoted to providing homes at sub-economic rates, to meet the natural increase of populations.

v. Trained Staff

The salaries of trained welfare workers in many organisations are subsidised by the State, and certain of these organisations are extremely active in social and preventive care.

vi. Maintenance Grants

These are paid to unsupported mothers of pre-school and school-attending children where there is more than one child and legal compulsion of the father is impossible. This is a very valuable protective measure as the mother is not compelled to leave young children and go to work.

vii. Education

The widening availability of education facilities should ensure improved earning ability among school leavers and more adequate peparation for further education and training where desired. Thus good school education is a long-term preventive measure of the utmost importance.

viii. Research

The State promotes important and high-level research in nutrition and paediatrics.

SHORTCOMINGS OF THE PRESENT NUTRITION POLICY

The aim of this report is to bring forward for discusssion certain needs which have not been met in the course of the ad hoc development outlined above and to make suggestions for amendment within the existing framework:

i. Failure to delineate the problem

The basic problem of child nutrition in the lowest socio-economic groups in South Africa is one of growth failure.[1] This fact is obscured by the incidence of the more dramatic forms of breakdown, such as marasmus and kwashiorkor, which is not, in itself, statistically impressive. The mistake is still being made of regarding as important only the tip of the iceberg and of disregarding the broader base. Thus, only when a child's growth has reached dangerously low levels is there intervention e.g. by the provision of skimmed dried milk, or skilled hospital care, and only for that child. In the context of the present Carnegie project it is important to restate that growth failure has been shown to correlate significantly with degrees of depressed economic circumstances.[2] It is therefore possible to identify communities which may well be at risk and, within these, to pinpoint those families which most probably are at risk.

ii. Failure to recognise the importance of the entire spectrum of growth, from conception through adolescence, viz.

(a) Pregnancy: Although good antenatal and obstetric services are available, they do not include dietary supplementation for underweight mothers or those that show inadequate weight gain in pregnancy. Jeliffe describes the cumulative nutritional drain of pregnancy among developing populations resulting in a 'maternal depletion syndrome'. Such mothers have been shown to be at risk of producing low weight infants with high morbidity in early life. In general, there is a high incidence of low birthweight in socially depressed communities and, if this is followed by inefficient lactation, infection and malnutrition readily supervene.

Apart from the effects on morbidity there is a risk of intellectual impairment if brain growth is affected during its fastest growing period, i.e. in late pregnancy and early infancy. Stoch & Smythe in a controlled 20 year follow-up study of severely marasmic young infants found biological evidence of organic changes linked to early undernutrition.[3] The effects of such impairment may be compounded by the physical inactivity and unresponsiveness of malnutrition itself. Thus any help that can be given to the malnourished pregnant woman, must contribute to the wellbeing and resistance of her child and should be regarded as an important preventive measure.[4]

(b) Infancy: The advice, immunisation and assisted feeding at infant clinics are only available to those who are able to attend there. Although the Community Health nurses attempt to seek out the non-attending infants of negligent or working mothers, or those that are for some reason in the care of child-minders, nutrition failure frequently occurs among these.

A certain number of mothers wean their babies early because maternity benefit is only payable for two months after birth, but experience in the field has not shown this to be the major cause of early weaning among the poorer mothers. There appears rather to be a widespread lack of encouragement and direction in the establishment of lactation during the crucial post-partum weeks, a period which may well represent the gap between the outgoing obstetric team and the incoming health team.

Shortage of staff and distance from clinics are thus factors that limit the practice of breast-feeding, which is the most important preventive measure in infancy, and the full utilisation of clinic facilities.

(c) The "toddler" and pre-school age: A grave shortcoming of Day Centres is that these are for infants over the age of 24 - 30 months because of the additional care required, yet the age group of 10 - 30 months is notoriously vulnerable to infection and malnutrition.

Moreover the resulting apathy and reduced mobility affect early learning and exploratory experience. We fed infants in homes where a sibling had previously had kwashiorkor. Initially the fed infants grew very well but, after assisted feeding stopped at about 30 months, they slowly reverted to the family pattern. However, intellectual assessments at 6 & 12 years of age, showed them to be significantly superior to their sibling controls. Not only had they been well nourished when young but they had been alert and active in their early learning period.[5]

It needs also to be emphasised that, in spite of recent developments in city areas, the Day Centres that do exist for toddlers over 30 months of age are totally inadequate in number for the children who need to make good their early deprivation before school age is reached.

Surveys of school entrants are considered important because results reflect the previous 5 years of growth of a cohort of children. In one such study Power (1982) found that 24% of the children were below the 5th percentile for weight and 20% for height.[6] He considered it to be of particular concern that probably many of these, i.e. those who were underweight for age but had a normal height/weight ratio, had probably experienced sub-optimal growth during the critical periods of brain development.[7,8]

(d) School age: Between 1949 and 1960 the State through its Education Departments, sponsored the feeding of school children. This was a measure supported by the findings of the Cillie Report (1950) and was found to be a great benefit to needy children. Since its discontinuation such dietary supplementation for school children as does exist has been in the hands of voluntary organisations, such as the Peninsula School Feeding organisation which currently assists 269 schools in the Cape as far afield as Robertson and Saldanha.

The report[9] of the authoritative Theron Commission (1976) recommended that well-organised, selective school-feeding be re-introduced by the State with possible community participation: also that the School Medical Services be made more comprehensive and effective.

EVIDENCE FOR THE EFFECTIVENESS OF SCHOOL FEEDING

The effectiveness of school feeding is always questioned because there is no clear evidence that it improves growth or school performance.

Large scale studies, after the first world war, by Orr in Britain and Lininger in Philadelphia produced strongly suggestive evidence of benefits derived. After the second world war investigations, using more refined techniques, confirmed that the nutritional status of the study children did improve over a period of time. The more successful results were tied to the nutritional deficits of the cildren being served, i.e. the most nutritionally deficient children would show the most marked improvement. This confirmed the view of Roberts (1935) that a mid-morning snack would be likly to accelerate weight gain in underweight children.

There have been persistent reports from teachers and others, of lessened fatigue and improved powers of concentration with school feeding and of better school attendance. In the study by Reddy (1977) on school failure among coloured children in Cape Town, 90% of the teachers cited absenteeism as the chief cause.[10] As regards malnutrition, 75% emphatically agreed that "the child who is hungry and ill-fed lacks the energy and enthusiasm to apply himself to his school work".

This lends weight to the differentiation which Read makes between malnutrition as a state of nutrient deficiency which is chronic, and hunger, as a psychologic and physiologic state resulting from deficiency to meet immediate energy needs.[11] The classic study on hunger and starvation by Keys et al (1950) after the second world war, clearly indicated a pattern of irritability, disinterest, apathy, etc., which was completely reversed on re-feeding.[12]

In schools where a fair percentage of children from the surrounding community show stigmata of malnutrition, especially in the form of retarded growth, there is likely to be a much larger percentage who are hungry although not growth retarded.

THE COMMONLY ACCEPTED AIM IN SCHOOL DIETARY SUPPPLEMENTATION IS TO PROVIDE ONE THIRD OF THE DAILY ALLOWANCE OF ENERGY, PROTEIN AND VITAMINS IN AN INEXPENSIVE AND ACCEPTABLE FORM.

D. RECOMMENDATIONS

The long-term objective must remain the removal of the underlying causes of malnutrition.[13,14] In the meanwhile, much is being achieved by the close involvement of the health team with the community and by fostering self-help whenever possible. Nevertheless, there is an urgent need for the State to expand its preventive measures to make good certain present deficiencies, viz.

Assisted nutrition for malnourished women with inadequate weight gain in pregnancy.

Increased staff facilities for the promotion of breast-feeding and the supervision of non-attending infants and toddlers.

Provision of Day Centres for younger age groups.

DIETARY SUPPLEMENTATION AT SELECTED SCHOOLS by the Department of Health and Welfare.

EXPANSION OF THE SCHOOL MEDICAL SERVICE to include responsibility for the selection of schools to be served, on the basis of systematic growth recording.

A D Moodie
I Robertson
M A Kibel

CHILD HEALTH UNIT
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These papers constitute the preliminary findings of the Second Carnegie Inquiry into Poverty and Development in Southern Africa, and were prepared for presentation at a Conference at the University of Cape Town from 13-19 April, 1984.

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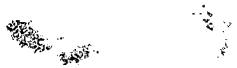
SALDRU
School of Economics
Robert Leslie Building
University of Cape Town
Rondebosch 7700



Edina-Griffiths