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Sir,

Positive Deviance

A study was designed to identify the factors that enable some households to bring up well-nourished children in communities where a large proportion of children suffer from malnutrition due to poverty-related factors ('positive deviance').¹

A case-control study comparing 53 well-nourished children (confirmed by weight-for-height above 80 per cent of the 50th centile of NCHS standard specific for sex and height-for-age above 90 per cent of the 50th centile of NCHS specific for sex) to severely malnourished children (weight-for-age below -4 standard deviation of Harvard Standard combined for sex) was carried out in Bishnupur villages (West Bengal, India) within the catchment area of the Child in Need Institute (CINI).² Children aged 1-5 years, belonging to poor families, were the subject for the study.

The main groups of variables studied were: family size and structure, feeding pattern, mother's attributes and child-bearing pattern, influence of primary health care actions on child nutritional status and child morbidity. Statistical treatment with Chi-square test, *t*-test, odds ratio (OR), and Cornfield 95 per cent confidence interval (CI) were done when appropriate. Differences were considered significant when $P < 0.05$.

The main findings associated with a good nutritional status of the child were: small family size [less than four persons ($\chi^2 = 5.83$, $P < 0.01$)], child birth order below 3 (OR: 4.05, CI: 1.69-9.84, $P < 0.001$), mother's height ($t = 10.76$, $P < 0.001$), prolonged exclusive breastfeeding ($\chi^2 = 6.6$, $P < 0.001$), late introduction of semisolids and liquids other than breastmilk ($\chi^2 = 7.64$, $P < 0.005$), and a lower level of child morbidity (presence of diarrhoea in the previous month in the malnourished children, $\chi^2 = 14.9$, $P < 0.001$). No association was found ($P < 0.05$) between Primary Health Care actions (more than three antenatal attendances, possession of growth chart, complete immunization, knowledge of electrolyte solution, and use of family planning methods) and the children's nutritional status.

The smaller family size of well-nourished children could suggest that either the mothers of well-nourished children were planning their families better or, on the other hand, were just beginning their

pathway towards being older, having a bigger family size, and higher parity.

Being one of the first babies born in a small family brings advantages. Attention can be given to the child because the mother is not overburdened with the care of a large family. Besides this, where there are less people, the sharing of food between the family members is more adequate, since the *per capita* income is higher than in bigger families. Gopalan³ pointed out that the percentage of nutritional deficiency signs in children increased and dietetic intake decreased by 300 calories and 10 g of protein per adult consumption in families with four or more children, as compared to 1-3 and Scott⁴ showed that as the number of children per family increased, mean weight, height, and intelligence scores tended to decrease.

The finding of taller mothers in the well-nourished children could also point to the fact that these mothers could have had a healthier childhood than those of the malnourished children, which allowed them to grow taller.

Primary health care actions may have contributed towards a better survival rate in poor families, but they alone did not show association with the nutritional status of the children. Growth monitoring by itself, however efficiently carried out, could not bring about nutritional improvement.⁵ A study in south Indian villages suggested that growth charts did not seem to be a better educational tool than education without charts and questioned its use as part of survival programmes in India.⁶ Oral Rehydration Solution can also save many lives, but the essential requirements for ensuring proper environmental sanitation and personal hygiene for the promotion of good nutrition cannot be by-passed.⁷ In relation to the immunization status of the child, although many of those severely malnourished children surveyed could be dead or physically handicapped by measles or poliomyelitis, their extreme growth retardation is a handicapping factor and if those children survive to adult life their quality of life is questionable.

It was concluded that there is no 'magic bullet' solution to ensuring good child growth in the poor families of Bishnupur. The poor families can only maintain well-nourished children when the family is small. Once the family increases, the *per capita* income decreases and the mother's burden increases due to a combination of too much work, not enough food, and the demands of repeated pregnancies.

The big family size and high parity in the poorest families is an expected finding in rural India. Children represent, for the landless and minimally-landed families, their only source of security. The economic value of children to labouring families has been shown in many studies; more children, especially sons, still mean a net inflow of wealth in these families.⁸ While parents know they must have about

seven children for four to survive to help them in their old age,⁵ it will continue to be only the families in early formation who have the better nourished children. Only when families can see that their children will survive will they be in a position to plan their families so they have a smaller number of children.

It is recommended that, in the short term, more support should be given to women, especially during pregnancy. In the long term, community development is required. Action is needed to help improve the economic conditions of these poor families if health services are to be expected to have a greater impact on the children's nutritional status.

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Sir,

Neonatal Varicella in a Premature Infant

We report a case of neonatal varicella in a premature (AGA) infant, born to a mother who developed chickenpox 24 h prior to delivery. Probably, this is the first case of neonatal varicella being reported from India.

A preterm 32 weeks AGA male baby weighing 1600 g was born to an 18-year-old primigravida in a rural hospital. The 15-day-old baby was brought with complaints of fever, rash, vomiting, and refusal of feeds for the last 3 days.

On admission, the infant had extensive maculopapular rashes with vesicles and a few pustules all over the body, especially on the face, in the mouth, and on the eyelids. The child was pale, cyanotic, hypothermic, mildly dehydrated, and had shallow breathing. There were bilateral crepitations in the chest and bradycardia. Later the child developed respiratory distress with chest retraction and apnoeic attacks. The mother had generalized crusting lesions all over the body. There were no lesions over the buccal mucosa or genitalia. Investigations revealed: a haemoglobin of 8.3 g%; total count 10 300/mm³; differential count N55 L43 BF2 PCV57; platelet count 60 000/mm³; blood urea 50 mg/dl; creatinine 1.1 mg/dl; and chest X-ray showed patchy pneumonia on the right side. Blood and urine cultures were sterile. Fluid from vesicles showed inclusion bodies on microscopy. Due to technical difficulties antibody study could not be done to confirm the diagnosis.

The child was treated with injectable acyclovir 10 mg/kg body weight in equal amount of normal saline as intravenous infusion every 8 h for 10 days. Besides this, antibiotics and symptomatic treatment in the form of i.v. fluids, maintenance of temperature, and fresh frozen plasma were also administered. The child recovered and was discharged after 11 days.

Neonatal varicella occurs in a newborn when a pregnant woman develops chickenpox during the last 3 weeks of pregnancy. The precise timing of the onset of disease in the mother and in the neonate is critical in predicting the outcome of the infant. If the onset in the mother is within 4 days prior to delivery or within 2 days after delivery, the infection in the neonate is likely to be disseminated and severe because of lack of maternal antibody.¹ On the other hand, if the onset in the mother and in neonate is between the fifth and tenth days of life the infection is mild. The reason for the very different prognosis in these two situations is probably because greater time is available for the transfer of maternal antibodies in the latter situation.²

The role of *Varicella zoster* immunoglobulin (VZIG) in preventing the disease is controversial, but the consensus of opinion is that VZIG in the dose of 250 mg should be given to neonates at risk including those whose mothers have chickenpox during that last 7 or 8 days of pregnancy. This possibly modifies the course of the disease in the infant.^{3,4}

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