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PROTEIN MALNUTRITION (KWASHIORKOR) IN CHILDREN OF WORKING MOTHERS

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Enquiries into the family background of children suffering from protein malnutrition (kwashiorkor) have yielded some interesting information which has a bearing on the prevention of this deficiency disease in urban areas.

In Kampala (Uganda), Dean and Geber[1,2] found that about half the patients admitted to hospital with the diagnosis of kwashiorkor were children who had been deserted by their mothers or neglected by them. They concluded from this observation that the mother's attitude to her child must play an important part in the aetiology of some cases of kwashiorkor. They suggested that a child, psychologically rejected by the mother or physically separated from her, was likely to lose its appetite. This, they believed, would predispose the child to kwashiorkor in a society where only a good appetite can ensure an adequate protein intake.

Farmer,[3] also working in Kampala, believed that these psychological factors were of greater significance in the aetiology of kwashiorkor than the poverty of the parents.

In Johannesburg it is also frequently observed that malnourished African infants arrive in hospital unaccompanied by their mothers. The incidence of this occurrence and the reasons for it are analysed in this paper.

PATIENTS AND METHODS

Data were collected over a period of 3 months from 150 consecutive children admitted to this hospital with the diagnosis of protein malnutrition. All these patients suffered from nutritional oedema, and other stigmata of malnutrition were present in varying combinations. A number of grossly marasmic, non-oedematous infants, mostly under 9 months of age, were excluded from the series.

The body weight referred to in this paper was always that recorded on admission to hospital, when the patients were still in the oedematous state.

RESULTS

Of the 150 patients, 77 (51%) gave a history of separation from their mothers preceding admission to hospital. In 35 (45%) of these 77 children, the mother was absent from the home during the day only and she returned home after work in the evening. In the other 42 (55%) cases the separation had been continuous for months or years. (For comparison, a history of temporary or continuous absence of the mother from the home was obtained in only 22 (11%) of 200 consecutive patients attending the paediatric outpatient department of this hospital.)

The mother's place was usually taken by the grandmothers, who were responsible for the care of 43 (56%) of the children, while the remaining 34 (44%) were under the care of other relatives, neighbours or hired helpers.

Of those separated from their mothers, a total of 24 children had been living on farms, usually with their grandparents. Almost invariably it was stated that milk could not be purchased on these farms.

The age distribution and body weight of all patients in this series are shown in Fig. 1. The youngest child was 2½ months old and the oldest 6 years. Only 20 (13%) of the 150 patients were over 2 years of age. Separation from the mother was found in 11 (27%) of 40 children aged 1 year or less, in 50 (55%) of 90 children between 1 and 2 years and in 16 (80%) of 20 children over 2 years of age.

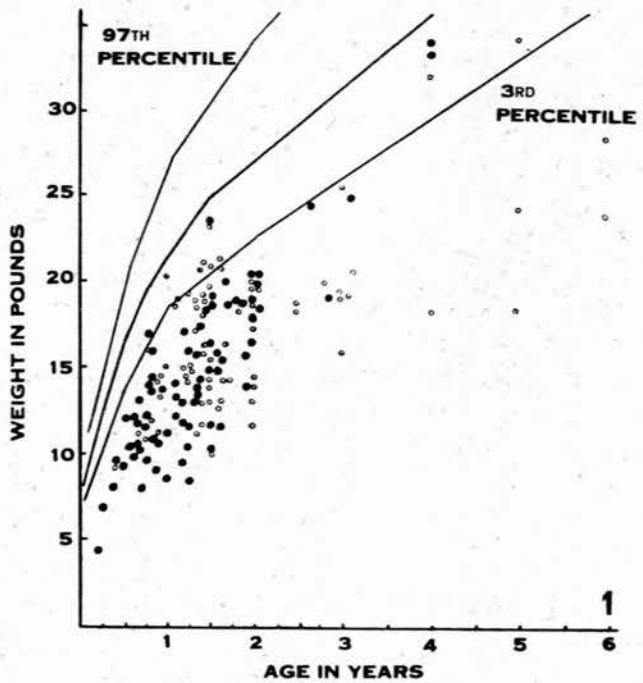

Fig. 1. Body weight of 150 malnourished children, before loss of oedema, compared with normal weight standards (mean weight and 97th and 3rd percentiles). Dots denote children living with their mothers, circles signify that the child is not living continuously with its mother.

Most of the patients came from relatively small families. In the total series of 150 children, only 31 (20%) had 4 or more siblings. Among the 77 children separated from their mothers, only 15 (19%) had 4 or more siblings.

The following reasons were given for the inability of the mothers to care for their children: 64 mothers were working in domestic service or factories, 9 mothers had 'run away from home' (ill-treatment by the husband is often the cause of this), 1 mother had been admitted to hospital, and 3 were stated to be mentally deranged.

Most of the mothers in employment paid the person who was looking after the child from R1 to R5 a month. The amount appeared to be entirely arbitrary and neither the mothers nor the attendants accompanying the children to hospital were able to calculate the monthly cost of feeding a child.

No attempt was made in this survey to assess the family income because, for reasons peculiar to this community, an accurate answer was not likely to be obtained.

The age at which the infants were weaned could not be ascertained with any degree of accuracy, because in many instances the mother could not be interviewed and the attendants were unable to answer this question.

DISCUSSION

This investigation has shown that more than 50% of children admitted to this hospital with severe malnutrition lack adequate maternal care and supervision. In most cases this is due to the absence of the mother from the home, usually on account of her employment in domestic service or in industry. This highlights the fact that the wage-earning capacity of the African woman plays an important part in the household budget of urban communities. Similar observations were made in Cape Town,[4,5] where 40% of the mothers of malnourished infants are engaged in work outside their homes.

Wilful neglect of the child by the mother does not appear to be an important aetiological factor in malnutrition in Johannesburg, although it should be noted that in 6% of the cases in this series the mother had 'run away from home'. In not a single instance could malnutrition be attributed with certainty to neglect of the patient in favour of a younger sibling. Therefore, the motives for the absence of the mother of malnourished infants from home differ markedly from those found in the Kampala surveys, where a large proportion of the children were separated from their mothers or rejected by them when they became pregnant or gave birth to another child.

There are several factors which render children of working mothers vulnerable to protein malnutrition. These include the following:

1. They are often weaned at an early age to permit the mother to resume work.[4] For reasons stated above, it was not possible in this investigation to determine the age at which weaning had taken place. Indirect evidence of early weaning is, however, provided by the high proportion of children under 18 months of age who contracted the disease.

2. It is usually in the poorest and most backward section of the community that the mother has to support, or contribute to the support of, the family. Those who take over the care of the child from the mother are usually even less pecunious and educated than the mother, and they are usually ignorant of the most elementary rules of infant care. Furthermore, mothers as well as their helpers have invariably been found to be incapable of household budgeting and calculating the weekly or monthly expenditure necessary for the feeding of the children. For this reason the amounts of money set aside for the care of the child varied greatly, and they were usually inadequate for the purchase of a good-quality food, let alone for the remuneration of the helper. In not a single instance had the mother enquired from the person looking after her child how the money she had provided for the support of the child had been expended.

3. Inability to obtain a regular supply of cow's milk seemed to be an important cause of malnutrition of children sent to rural areas.

In most of the cases in this series there was no need to invoke psychological factors to explain the poor nutritional state of the children. This was obviously caused by a totally inadequate diet.

Every year, 700 - 800 children are admitted to this hospital with manifestations of advanced protein malnutrition (kwashiorkor). In a considerable number the disease could have been prevented, had the working mother been able to send her child to a well-run day nursery where an adequate diet could be provided. Since, in urban areas, malnutrition has its main incidence in children under 2 years of age, day nurseries should also cater for this age group and not give preference to older children, as is customary at present. The maintenance of this type of institution could be financed to some extent from the money which is at present wastefully expended on unskilled helpers.

SUMMARY

About half the 700 - 800 African children admitted to this hospital every year with manifestations of advanced protein malnutrition (kwashiorkor) come from homes where the mother is unable to care for her child personally. The lack of maternal care can usually be attributed to employment of the mother as a wage earner outside her home.

The effect of the absence of the mother on the nutritional state of her young child is discussed. It is suggested that the number of hospital admissions for severe malnutrition could be reduced if an adequate number of well-run day nurseries could be provided for the children of working mothers.

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