

Nutritional Status in Children Under 5 Years in Diala /1997

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Abstract

A descriptive study done in Diala in 4 health centers (two rural and two urban) on October 25-30th 1997. 800 children under 5 years of age were examined to show the effect of embargo on the nutritional status of Iraqi children. The study showed that 23.2% of those children were malnourished according to WHO reference criteria.

Key words: Malnutrition, under 5 children, Diala

Introduction

Malnutrition is a deviation of nutritional from normal (usually on the low side) due to deficiency of nutritional elements (qualitative) or decrease proportion of weight for age (Wt/age), height for age (Ht/age) or weight for height (Wt/Ht) according to WHO tables (quantitative) [1].

Acute malnutrition (low Wt/Ht) reflects more recent onset causes such as diarrhoea and ARI compound by inadequate feeding, it is most easily reversed but often due to repetition of this cycle.

Chronic malnutrition (low Ht/age) results in poor physical child growth, often reflects the economic condition, it is difficult to reverse after the child reaches 2-3 year of age.

General malnutrition (low Wt/age) is either or both of acute and chronic malnutrition, it is the most widely used indicator for nutritional status[2]. Many studies have been done to show the effect of embargo on Iraq. So this study was conducted to show the cumulative effects in a sample population after 7 years of embargo [3]. It is not only the shortage of food supply and consumption which affect the health of Iraqi children, it is also the deterioration in health services due to lack of medicines and equipment and deterioration of sanitation of safe water supply.

Methods

Four PHC center were taken randomly as a source of our target sample which was 800 children (200 from each center) under 5 years of age attending the center for immunization during the period between 25th -30th Oct. 1997, they had not been informed about the study, and were chosen randomly by systematic randomization (every 3rd

child). 2 PHC centers were from rural areas and 2 from urban area to make it representative for the population. The team was formed of a doctor (general practitioner) and two assistants (medical staff), they were trained on the use of equipment and the methods of measuring (supervised by PHC department). Uniscale was used for the measuring of WT and the Ht/length board. The questionnaire involved registration of child's number, sex, address, date of birth, weight and height or length. The weight was measured to the nearest 0.1 Kg and Ht/length to the nearest 0.1 cm.

In the analysis-2SD and below was considered to have moderate-severe malnutrition. Wt/Ht data below 5th percentile were considered as acute malnutrition cases according to WHO standards and reference data from NCHS [4].

Results

The study revealed that general malnutrition occurs in about 23.2% of children under 5 years of age. Chronic malnutrition in 27.5% and acute malnutrition in 8% (Table.1). Table 2 shows that acute malnutrition (low Wt/Ht) rates rise sharply at 6-23 months of age, a period of special risk for morbidity and mortality for this age group. General malnutrition (low Wt/age) prevalence also rises in this group (25%), while chronic malnutrition (low Ht/age) prevalence rises dramatically from 15% at 0-6 months age group to 33% at 18-23 months, and ranges from 30-35% from 2 years of age and above (Table 2). There was no significant difference between malnutrition rates regarding rural (20.7%) and urban (25.2%), and of malnutrition prevalence between male and female group (22.5%, 24.0% respectively) (Table 3).

Table 1: The percentage of each type of malnutrition for every PHC center.

PHC center	Sample number	Under eight Wt/age %	Chronic malnutrition Ht/age %	Acute malnutrition Wt/Ht %
Al-Tahrir	200	14	18	12
Al-Takia	200	26	25	8
Al-Moqdadia	200	22	24	6
Beni-Saad	200	18	26	3

Table 2: The age specific rate of the three types of malnutrition

Age group	Sample number	Acute malnutrition	Chronic malnutrition	General malnutrition
< 6 months	260	7 (2.7%)	39 (15%)	31 (11.9%)
6-23 months	430	43 (10%)	109 (25.4%)	98 (22.8%)
>23 months	110	8 (7.3%)	38 (34.6%)	31 (28.2%)

Table 3: The percentage of general malnutrition by sex and residency

Sex:	No. examined	No. of cases	Percentage	
Male	405	91	22.5	
Female	395	95	24.1	0.28 p>0.05
Residency				
Urban	457	115	25.2	
Rural	343	71	20.7	2.19 p>0.05

Discussion

General malnutrition rate (which was taken as an indicator) was obviously (and not surprisingly) high taking in consideration that Diala is not a poor governorate economically and has relatively good conditions for food production (animal and plant agriculture). It seems that there is a shift in the nutritional status towards the older age group (2-5 years of age) may be due partially to the fact that young children less than 2 years of age and infants are mostly depending on breast feeding so that the prevalence looks relatively low in them as they gain weight on the expense of their mothers [5], also it is attributed to the sampling selection because in the PHC center children brought to vaccinated usually less than 2 years of age. The age group mostly affected by chronic malnutrition was children above 2 years of age, this may affect the growth of the child leading to irreversible changes and the damages on child's development is likely to be permanent. The acute malnutrition affects mostly the age group less than 2 years increasing the risk of infection (especially diarrhoea and acute respiratory infection) which is considered as a cause and a result of malnutrition, both infection and malnutrition will lead to increase rates of mortality especially in this age group.

It is worth mentioning that before the embargo severe clinical malnutrition was rarely seen in Iraq and if found was mostly due to the disease rather than poor intake of food [7]. Even after one year of embargo, the prevalence of malnutrition was relatively low, during August 1991 by a study done by an international team of Harvard, only 9.2% of children in Iraq had general malnutrition, if we consider the current study representative for Iraq then direct comparison of its result shows that the present under weight estimate (23.2%) is about 2-3 times that of Jordan and Turkey (9-10%), more than Iran (16%) and Andalusian preschool children

(6.5%) [6] and worse off than Kenya and Uganda (22%) [7].

These results could be attributed to the effect of embargo on the economy of country, governorate, family and person leading to decrease food intake per capita, and the effect on health services, availability of medicine, safe water supply and sanitation leading to increase rates of infection causing more severe cases of malnutrition (both qualitative and quantitative). [8]

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