

Study of 2,973 malnourished children admitted to the Nutrition Rehabilitation Centers (NRCs) during the 2nd half of 2003 and 1st half of 2004

Introduction:

Iraq has passed through difficult situation for the last 24 years, three wars and 13 years of economic sanctions; under 5 children, pregnant and lactating mothers were the most badly affected. Moderate to severely malnourished children were managed through the PHC centers and the CCCUs network, whereby the severely malnourished and those suffering from other associated/ underlying illnesses have received more specialized care at NRCs under supervision of trained pediatricians.

Aim of the study:

- 1- To assess the nutrition status of the malnourished children admitted to the NRCs.
- 2- Epidemiological distribution of the affected/ admitted cases.
- 3- Average duration in (days) of the rehabilitation/ nutritional management.
- 4- Average weight gain and general status on discharge from the NRCs.

Methodology:

- Out of about 12,000 data sheet of admitted children, collected from all NRCs in the S/C governorates NRI have received and using systemic sampling a total of 2,973 data sheets were identified and analyzed for this study.
- The Id cards were used to calculate the age of the admitted children to the NRCs.
- Electronic weighing scales (Uniscales) were used to weigh all children to the nearest 0.1 kg.
- Weight for height was used as the main indicator to assess the nutrition status of the admitted children.
- F 100 therapeutic milk and complementary foods were used to rehabilitate the admitted severely malnourished children.

Results and discussion:

- 1- Sex distribution of the admitted cases; the total no. of cases was 2,973 children, of those 1,549 (52.1%) were boys and 1,422 (47.9%) were girls, this might be attributed to the standard fact of taking more care of boys rather than of girls.
- 2- Age distribution; the below table reflect age distribution of the admitted cases to the NRCs.

Age group in months	%
0-6	25.1
7-12	34.2
13-24	26.0
25-36	7.2
37-60	7.5
Total	100

Children aged 0-12 months were divided into two groups (0-6 and 7-12) where by other groups in 12 months interval. Children aged 7-12 months were found the most affected/ admitted to the NRCs (34.2%), followed 0-6 month and 12-24 months; this is strongly related to inadequate feeding practices of the very young children during their first 2 years, this is mostly related to inadequate exclusive breastfeeding, bottle feeding, early/ late introduction of complementary food and early weaning, almost all cases were found associated with diarrhea.

3- Duration of staying in the NRCs: the below table reflected the average duration of staying in the NRCs.

Duration in days	%
Less than 24 hours	2.8
One day	16.2
2-5	37.2
6-10	30.5
11-15	8.1
More than 16 days	5.2
Total	100

Staying in the NRCs for 2-5 days (37.2%) and 6-10 days (30.5%) were found the average period, some mothers are refusing to stay for overnight (2.8%) due to different reasons like having other children at home she can not left them alone and are desperate need for her daily care. During the above mentioned period 2-10 days the mothers usually will notice the difference in their children condition, when they start getting some extra weight and the mothers by this time are getting key health and nutrition education to enable them providing the required care and support to their sick malnourished children.

4- Weight gain; to assess the successful management of malnourished children, weight gain on discharge is the most sensitive indicator, the below table will summarize the main findings.

Weight gain in Grams	%
Weight loss	6.9
0 gain	25.7
100 gram	11.4
200 gram	24.6
300 gram	16.1
400-500 gram	7.9
600-1000	5.3
More than 1 kg	2.1
Total	100

Some children have lost some weight during the management course, due different reasons, congenital/ metabolic diseases and mother refusal to stay in NRCs for further investigations and follow up. About 1/4th of the studied children were found gain no weight, this is mainly due to short/ inadequate duration of staying in the NRCs, and due

to the fact that children are losing some weight in the 1st few days of the nutritional rehabilitation with therapeutic milk/ management followed by rapid weight gain and due other associated chronic illnesses. It was found that weight gain is directly related to the duration of staying in the NRCs and this is directly reflected on improvement of the nutritional and health status of the malnourished child.

5- Nutrition Status on admission; the below table is showing the nutritional status of the malnourished children on admission;

Nutritional status underweight in SD (Z scoring)	%
-1 SD	28.1
-2 SD	38.2
-3 SD	23.9
-4 SD	9.8
Total	100

Most cases were admitted to the NRCs because of associated illnesses on top of malnutrition.

6- General status of the child on discharge;

It was found that 79.6% of the admitted cases were reported as (improved) based on the issued medical / follow up discharge report, and about 15% of the admitted children have left the NRCs with (no improvement/ same condition) and it was found that 5.2% of them were get worse on discharge from the NRC, where by the case fatality rate was found 0.1%.

7- Conclusions;

The main conclusions can be summarized as below;

- a) Boys were found relatively more affected by malnutrition and managed in the NRCs rather than girls.
- b) Most of the severely to very severely (-3 to -4 SD below normal) malnourished children were found under 2 years old, which is directly related to the poor/ inadequate Infant and Young Child Feeding (IYCF) practices.
- c) Duration of staying in the NRCs is directly related to improvement in the nutritional status and weight gain, and staying in the NRCs for about 10 days is regarded as adequate especially when invested for health and nutrition education of the mothers to provide better care to their children.

8- Recommendations;

To sustain the TNP and the successful interventions carried out under this program till now, and in order to reduce the prevalence of severe malnutrition in Iraq, we need to adopt the following recommendations;

- a) Adopting a new national plan of action on IYCF practices, promoting exclusive breastfeeding for 6 months, timely introduction of suitable home made complementary food, continue breastfeeding for two years and feeding during and after common illnesses.

- b) Further support to the NRCs and providing the required therapeutic food and therapeutic milk F 75 and F 100 and promoting appropriate usage of these foods.
- c) Further support to training opportunities of health workers, volunteers and other supporting groups to promote appropriate care / practices at health facility level and at home level.
- d) The need for social mobilization activities to promote better utilization of the NRCs and advocating to keep mothers and their malnourished children in the NRCs for adequate time to rehabilitate those malnourished and to reduce the relapse rate.
- e) Supporting social mobilization activities to promote the personal hygiene of mothers, children and promoting food safety measures.