

ORIGINAL ARTICLE

# Malnutrition In The Outpatient Department of Child Nutrition Dr. Pirngadi Hospital Medan (1976 – 1979)

by

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## ABSTRACT

*A 4 years retrospective study was made on malnourished children attending the OPD of the Sub Department of Child Nutrition, Dr. Pirngadi Hospital during the period of 1976 – 1979. In this study 635 out of 720 malnourished children were under 3 years old. Gain in body weight was only seen in 23,7% of the children. Most of them (49,7%) came only once. More effort such as child food demonstration, health and nutrition education is needed to motivate the parents to bring their malnourished children for consultation.*

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## INTRODUCTION

Nutrition is very important especially in developing countries. So is it written in the Directory of State Main Objective (GBHN, Indonesia) and 3<sup>rd</sup> National Development Plan (see Chapter 9 of Repelita III).

Nutrition problems do exist in North Sumatera as in other regions of Indonesia. In the Department of Child Health Medan many malnourished children are admitted. In 1976 the Sub Department of Child Nutrition was established for better service in Child Nutrition. For ambulatory management of malnourished children there are certain days in the OPD namely Tuesday, Thursday and Saturday. Mothers of malnourished children are given health and nutrition education concerning the selection and giving of proper food for their children. Beside educating the mothers milk powder and rice powder are also distributed. Control for evaluation are made every two weeks.

The objective of this study was to evaluate the results of management of attending children during a certain period.

## MATERIAL AND METHOD

A 4 years retrospective study was made on patients attending the OPD of the Sub Department of Child Nutrition Dr. Pirngadi Hospital during the period of 1976 – 1979. Their body measurement and frequency of visit were recorded. Body weight was measured with a Detecto beam balance scale and body length with a wooden measurement. Age was assessed by birth date registration or other information reported by the mother when birth date registration was not available. Diagnosis of malnutrition was made using standard weight on the Kartu Menuju Sehat (KMS) growth chart (Lokakarya antropometri Gizi, 1975).

## RESULT

During 1976 – 1979 there were 720 malnourished children visiting the OPD of Child Nutrition at Dr. Pirngadi Hospital Medan, consisting of 317 severe, 381 moderate and 22 mild malnutrition.

Out of the 317 with severe malnutrition there were 125 males and 192 females (Table 1) where as out of the 381 with moderate malnutrition there were 185 males and 196 females

Table 1 : Sex distribution of the severe malnourished children

Year	Boy	Girl	Total
1976	41	82	123
1977	38	48	86
1978	33	43	76
1979	13	19	32
Total	125	192	317

Table 2 shows the frequency of visit of the malnourished children. Most of the children visited the child nutrition OPD once or twice (61,8%) only.

Table 2 : Frequency of visit of the malnourished children.

Frequency of visit	Total	%
1 – 2 x	445	61,8
3 – 6 x	143	19,9
7 – 10 x	44	6,1
11 – 20 x	52	7,2
> 20 x	36	5

Moderate malnutrition was found mostly in infants while severe malnutrition was more frequent in the group of children over 1 year old. Table 3 shows the age distribution of the severe malnourished children. Most of the children were at the age of 2 to 3 years.

Table 3 : Age distribution of the severe malnourished children

Age (Year)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
0 - 1	9	28	16	15	13	16	4	5	42	64
2 - 3	32	51	19	30	19	26	9	13	79	120
4 - 5	-	3	3	2	1	-	-	1	4	6
>5	-	-	-	1	-	1	-	-	-	2
Total	41	82	38	48	33	43	13	19	125	192

Among the 381 moderate malnourished children 158 showed no improvement during management and only 9 children (2,4%) improved to good nutritional status. Two hundred and five of them came once only.

Nine of the children had a bad result. Among the 381 moderate malnourished children 230 (60,3%) were at the age of under 3 years, and most of them were infants (Table 4).

Table 4 : Age distribution of the moderate malnourished children

Age (Years)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
0 - 1	53	71	19	16	15	14	6	5	92	106
2 - 3	41	40	15	8	13	7	5	2	74	57
4 - 5	5	17	2	1	-	1	-	-	7	19
>5	9	13	2	1	-	-	-	-	11	14
Total	108	141	38	26	28	22	11	7	185	196

Among the 317 severe malnourished children 98 (30%) showed no improvement, 70 (22%) children improved to moderate malnutrition and only 4 (1,3%) children improved to normal. The rest of the chil-

dren (148 or 46,7%) visited the OPD once only. Of the 98 unimproved severe malnourished children most were under 3 months observation (Table 5).

Table 5 : Distribution and duration of observation of the unimproved severe malnourished children.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	6	17	9	9	8	9	2	7	25	42
4 - 6	-	6	-	2	-	8	-	2	-	18
7 - 12	2	-	-	-	2	3	-	1	4	4
>12	1	-	1	3	-	-	-	-	2	3
Total	9	23	10	14	10	20	2	10	31	67

The improvement of severe to moderate malnutrition took 3 months to 3 years, and it took the same time to gain slight improvement of severe to moderate and mild malnutrition (table 6).

Table 6 : Duration of observation and change from severe to moderate malnutrition.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	3	7	8	5	8	5	1	-	20	17
4 - 6	3	4	1	4	2	3	-	-	6	11
7 - 12	2	2	1	2	2	-	2	-	7	4
>12	-	-	1	-	1	4	-	-	2	4
Total	8	13	11	11	13	12	3	-	35	36

Improvement from severe to moderate malnutrition was found in 71 children, severe malnutrition to good nutrition in 4 children and moderate malnutrition to good nutrition in 9 children. All together 84 children (23,73%) showed improvement.

Some of the severe malnourished children did not gain body weight during the first 3 months of observation (Table 7).

Table 7 : Duration of observation and change from severe malnutrition to good nutrition.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	-	-	-	-	-	-	-	-	-	-
4 - 6	-	-	1	-	-	-	-	-	1	-
7 - 12	-	-	-	-	1	-	-	-	1	-
> 12	2	-	-	-	-	-	-	-	2	-
Total	2	-	1	-	1	-	-	-	4	-

Many of the moderate malnourished children did not gain body weight during the first 3 months of observation (Table 8).

Table 8 : Distribution and duration of observation of the unimproved moderate malnutrition cases.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	29	34	13	6	11	11	4	1	57	52
4 - 6	7	5	3	3	2	2	-	-	12	10
7 - 12	1	3	2	2	4	1	-	1	7	7
> 12	2	3	3	3	-	-	1	1	6	7
Total	39	45	21	14	17	14	5	3	82	76

Improvement of moderate malnutrition was found in 9 children during one month to 15 months of observation (Table 9).

Table 9 : Duration of observation and change from moderate malnutrition to good nutrition.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	1	2	1	-	-	-	-	1	2	3
4 - 6	-	-	1	-	1	-	-	-	2	-
7 - 12	-	1	-	-	-	-	-	-	-	1
> 12	-	-	1	-	-	-	-	-	1	-
Total	1	3	3	-	1	-	-	1	5	4

Nine children showed decreased of body weight thus they changed to severe malnutrition during the observation of 2 - 15 months (Table 10).

Table 10 : Duration of observation and change from moderate to severe malnutrition.

Duration of Observation (months)	1976		1977		1978		1979		Total	
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
- 3	-	-	-	-	-	1	-	-	-	1
4 - 6	-	-	1	-	2	1	-	-	3	1
7 - 12	1	1	-	-	-	-	-	-	1	1
> 12	1	-	-	-	-	1	-	-	1	1
Total	2	1	1	-	2	3	-	-	5	4

## DISCUSSION

Among 720 malnourished children who came to OPD of Child Nutrition there were 635 patients under 3 years old. Tjajj 1970 had found 1025 children with malnutrition between the age 1-3 years, mostly around one year among patients admitted to the pediatric ward of RSUPP Medan during the period of 1962-1966. The same age inci-

dence had been reported by the other authors who had found malnutrition between the age of 4 months - 5 years (Barness, 1979).

The unit of Nutrition of the regional Department of Health North Sumatera found in their field operation that the increase of body weight was 73,4%. Our finding was less satisfactory.

Table 11: *Mean percentage of children below 5 years who had improved body weight in rural areas of North Sumatera.*

Period	Body weight	
	increase	unchanged/decrease
I. July '77 – March '78	73,4%	26,0%
II. April '78 – August '78	76,6%	23,4%
III. January '79 – July '79	76,8%	23,2%

In the OPD of Child Nutrition improvement of body weight was found in 84 children (23,73%), while the result of field operation of Usaha Perbaikan Gizi Keluarga (UPGK) 1978 revealed an increase of body weight in 73,4% (Table 11) of children.

Unchanged or decrease of body weight was found in 265 children (77,94%), while field operation of UPGK found only 26,0%.

This study revealed less satisfactory results than that of the field operation of UPGK. More effort such as demonstration of food for children and teaching the mothers how to feed their children and more intensive supervision is needed to improve the result of the management of malnutrition in our UPD.

Eradication of malnutrition means elimination of the causes e.g. human behaviour

such as socio-economic, cultural factors, degree of education, technology and improvement of ecologic influences. The eradication, should be done simultaneously with early diagnosis of malnutrition and methods of improvement of nutrition and distribution of food materials (Asmuni, 1979).

### Conclusion

In this retrospective study we found :

1. Moderate and severe malnutrition at age of 7 months to 2 years.
2. Gain of body weight in 23,7% of the children
3. Most of the patient came only once (49,7%).
4. Child food demonstration, health and nutrition education is needed to motivate the parents to bring their malnourished children for consultation.

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