

Review

Table(1)
The Magnitude of Hypernatremic Dehydration
Among the Studied Dianhea cases.

Types of dehydration (serum sod. level)	Cases	
	No.	%
Hyponatremic Dehyd.	16	10.7
Isonatremic Dehyd.	115	76.6
Hypernatremic Dehyd.	19	12.7
Total	150	100

* 12.7% of all studied cases presented with hypernatremic dehydration.

The Magnitude of Hypernatremic Dehyd. Among the Studied Diarrhoea Cases

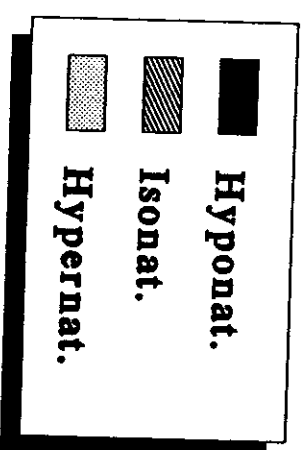
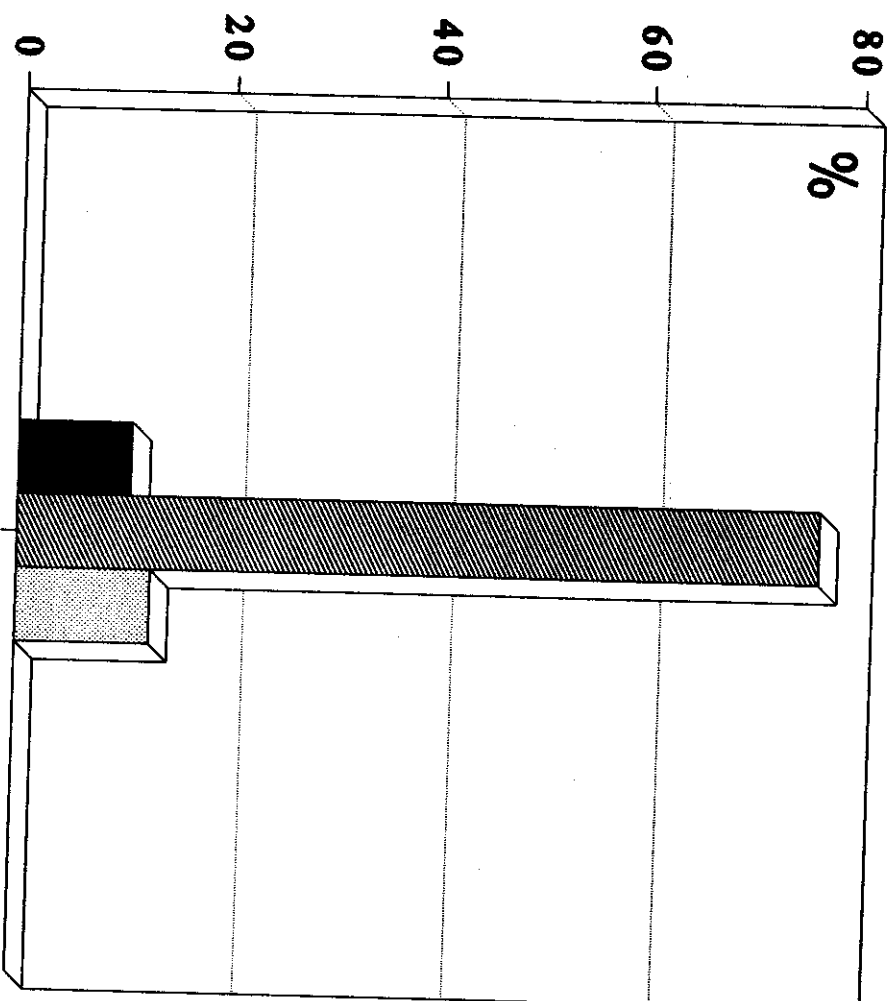


Figure (1)

table(2)
Serum Sodium level in relation to the use of ORS-90.

Serum Sodium level	ORS					
	Users		Non users		Total	
	No.	%	No.	%	No.	%
Hyponat.	4	25	12	75	16	100
Isonat.	50	43.5	65	56.5	115	100
Hypernat.	17	89.1	2	10.5	19	100
Total	71	47.3	79	52.7	150	100

$$\chi^2 = 17.42 \quad P = <0.001$$

* 47.3% of the studied cases used ORS-90.

* The majority of hypernatremic cases (89.1%) used ORS-90 as a line of management. Only 10.5% of hypernatremic cases did not use ORS-90.

Use of ORS-90 in relation to Serum Sodium Level

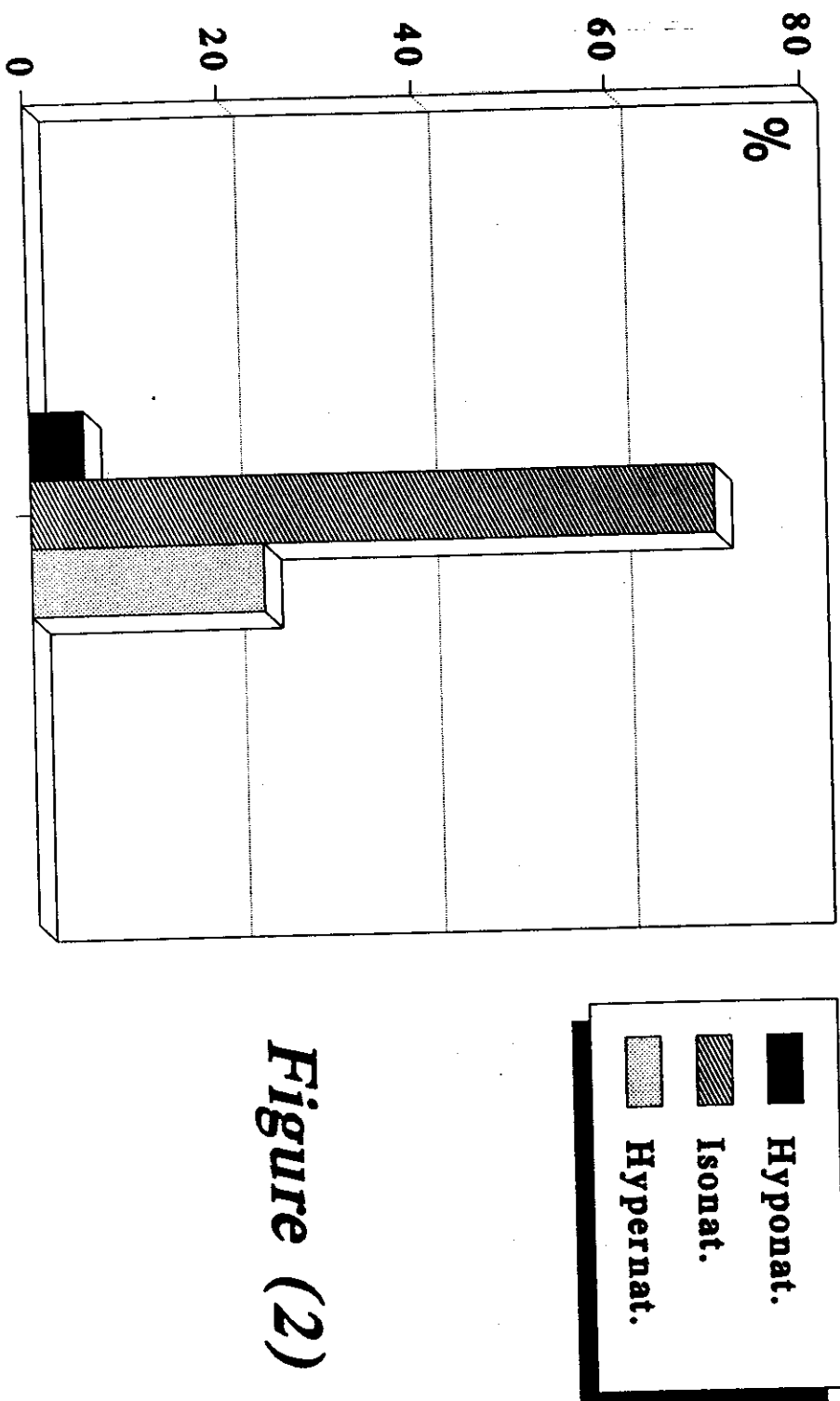


Figure (2)

table(3)
Serum Sodium level in
relation to the quantity of ORS-90 used .

Serum Sodium level	Quantity of ORS-90 used				
	Number of users	Mean number of packets (X)	S.D.	T	P
Hyponat.	4	1	0	7.5	<0.001
Isonat.	50	1.74	0.69	11.21	<0.001
Hypernat.	17	4.91	1.09		
Total	71	2.45	1.6		

- * *The mean number of packets used in hypernat., isonat., and hyponat. dehydration was 4.91, 1.74 and 1 respectively.*
- * *Cases presented with hypernat. dehydration were received larger quantity of ORS-90.*

table(4)
Who prescribed ORS-90

Serum Sodium level	Who prescribed ORS-90							
	Physician		Pharmacist		Already known		Total	
	NO.	%	NO.	%	NO.	%	NO.	%
Hyponat.	4	100	-	-	-	-	4	100
Isonat.	25	50	9	18	16	32	50	100
Hypernat.	7	41.2	3	17.7	7	41.2	17	100
Total	36	50.7	12	16.9	23	32.4	71	100

$$X^2 = 4.64$$

$$P = >0.05$$

* 67.6% of ORS-90 users received ORS-90 after medical personnel advice.

table(5)

Serum Sodium Level in relation to the mean age of the cases

Serum Sodium Level	Number of cases	Mean X (in months)	SD
Hyponat.	16	11.5	4.6
Isonat.	115	10.99	4.07
Hypernat.	19	7.42	2.39
Total	150	10.6	4.12

** The mean age of the studied cases was 10.6 months.*

** The mean age of cases presented with hyponatremic, isonatremic and hypernatremic dehydration was 11.5, 10.99 and 7.42 months respectively.*

** Hypernatremic dehydration predominated in younger age.*

table (6)
Age Distribution of the studied Cases In Relation to Sodium Level

Age (in months)	Serum Sodium Level							
	Hyponat.		Isonat.		Hypernat.		Total	
	No.	%	No.	%	No.	%	No.	%
<6	2	12.5	11	9.6	5	26.3	18	12
6 - 12	8	50	63	54.6	13	68.4	84	56
>12	6	37.5	41	35.6	1	5.3	48	32
Total	16	100	115	100	19	100	150	100

$$\chi^2 = 9.34 \quad P = < 0.05 \quad \text{Significant}$$

The majority (94.7%) of the hypernatremic infants were below age of 12 months; only 5.3% of cases were above one year of age.

Serum Sodium Level in Relation to Age

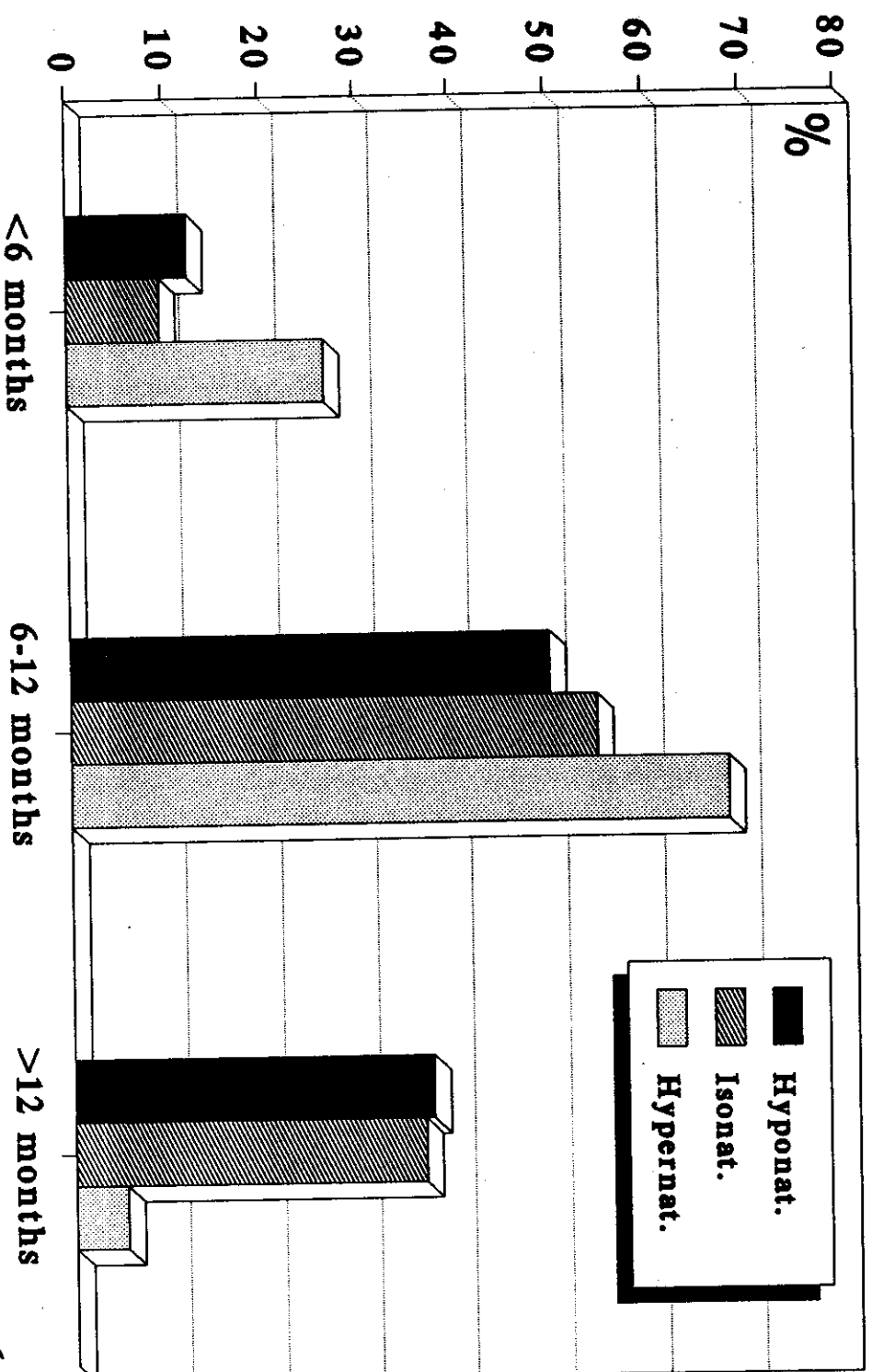


Figure (3)

table(7)
Serum Sodium level in relation to sex

Serum Sodium level	Sex distribution					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Hyponatremic	7	43.7	9	56.3	16	100
Isonatremic	63	54.8	52	45.2	115	100
Hypernatremic	12	63.2	7	36.8	19	100
Total	82	54.7	68	45.3	150	100

$$\chi^2 = 1.3 \quad P = >0.05$$

** Males represented 54.7% of the studied cases*

** There was no significant difference between both sexes as regard serum Sodium level .*

table (8)
Serum Sodium level in relation to feeding pattern of the studied cases

Serum Sodium level	Feeding Pattern									
	Breast		Artif.		Mixed		Weaned		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hypnat.	4	25	4	25	4	25	4	25	16	100
Isonat.	64	55.7	22	19.1	16	13.9	13	11.3	115	100
Hypernat.	3	15.8	13	68.4	2	10.5	1	5.3	19	100
Total	71	47.4	39	26	22	14.6	18	12	150	100

$$X^2 = 28.88 \quad P = < 0.01$$

* 47.4% were breast fed, 26% were formula-fed, 14.6% were mixedly fed and 12% were completely weaned

* Hypernatremic dehydration predominated in artificially fed infants (68.4%).

Hypernat. Dehyd. in Relation to Feeding Pattern

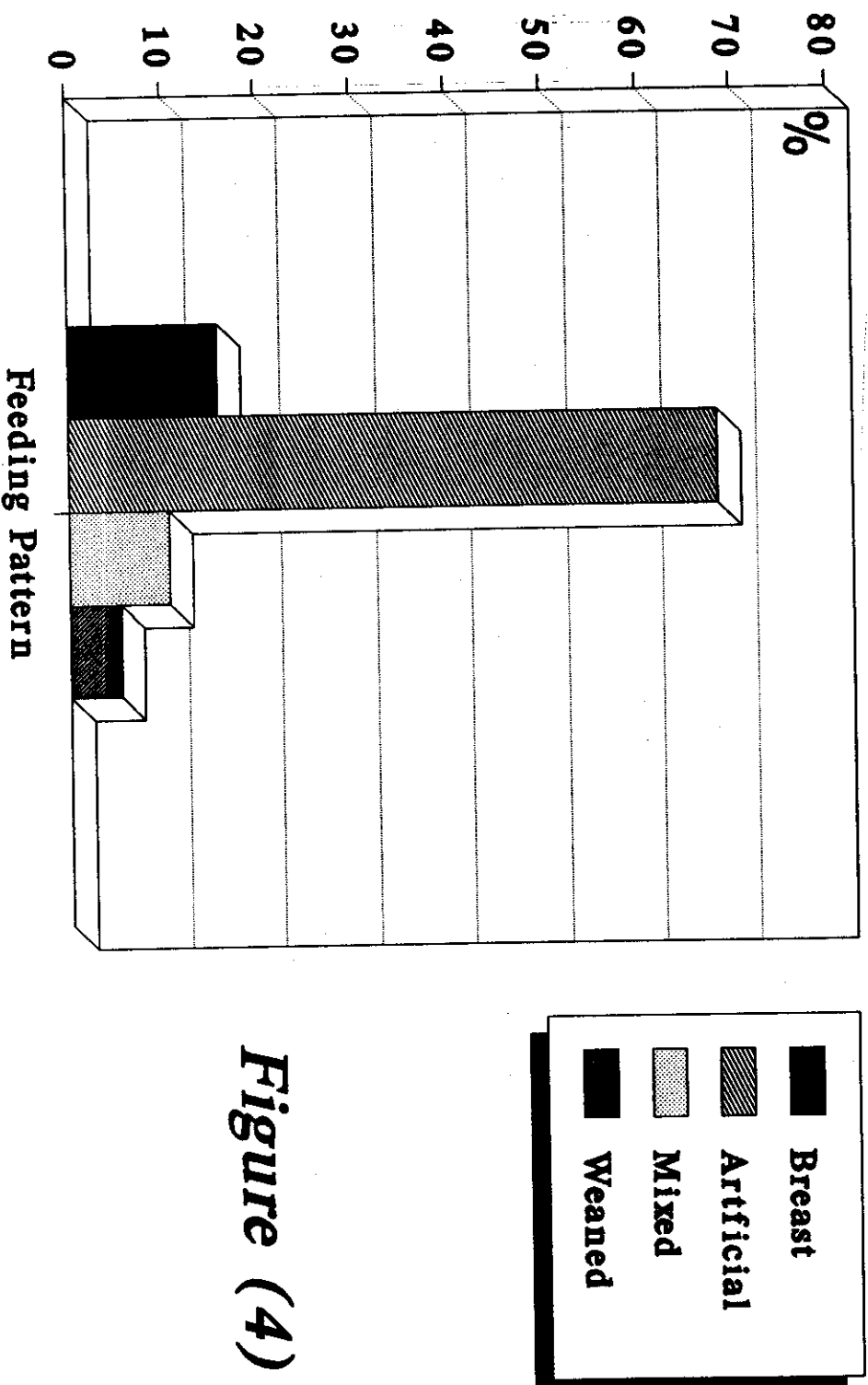


Figure (4)

table (9)
Serum Sodium level in relation
to nutritional status of the studied cases

Serum Sodium level	Nutritional Status					
	Wellnourished		Malnourished		Total	
	No.	%	No.	%	No.	%
Hyponat.	6	6.4	10	17.8	16	10.7
Isonat.	74	78.7	41	73.2	115	76.6
Hypernat.	14	14.9	5	8.9	19	12.7
Total	94	100	56	100	150	100

- * 14.9% of all wellnourished cases were hypernatremic.
- * 8.9% of all malnourished cases were hypernatremic.

Serum Sodium Level in Relation to Nutritional Status

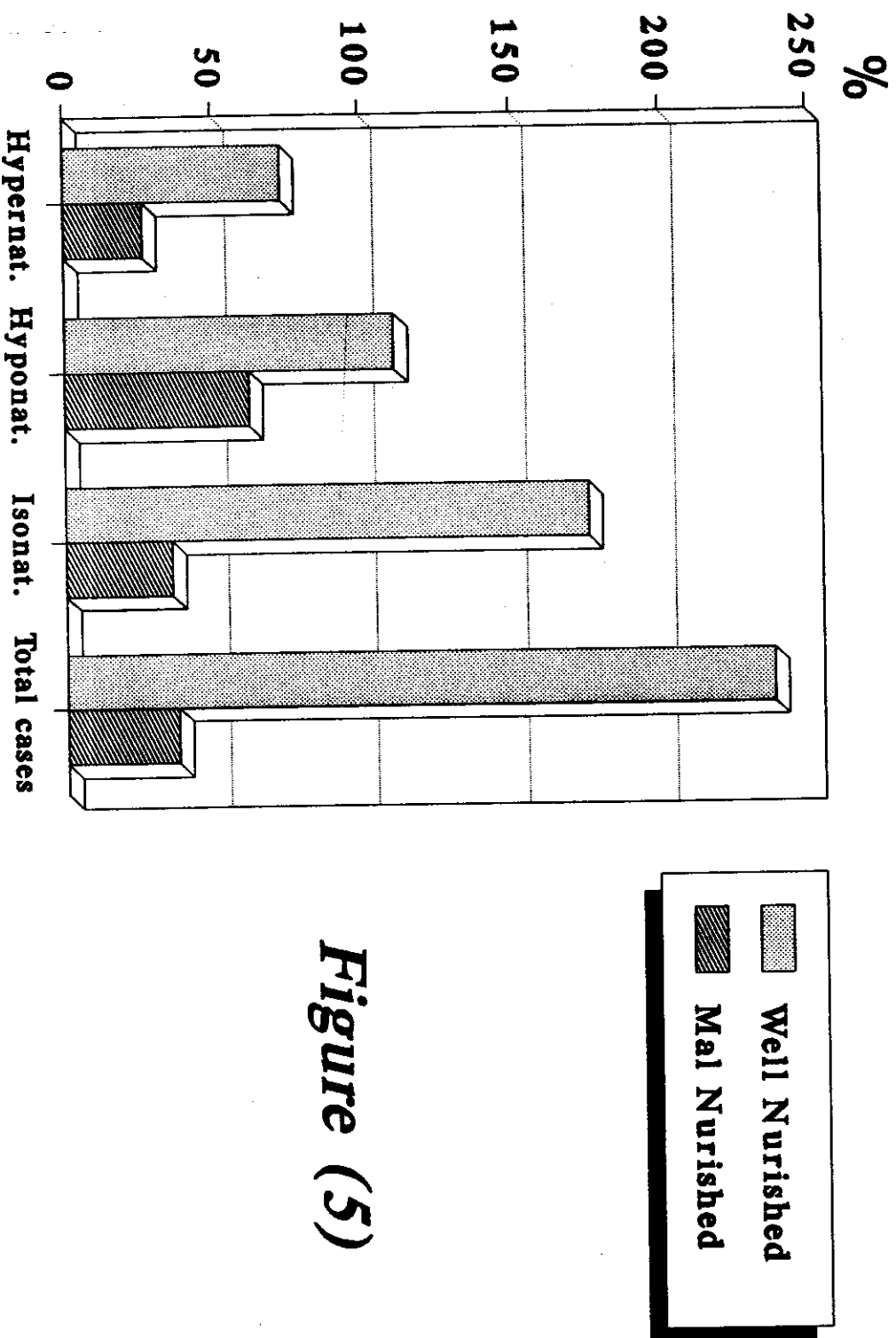


Figure (5)

table (10)

Serum Sodium level in relation to the duration of diarrhea.

Serum Sodium level	Duration before coming (in days)					
	1-2 days		3->3 days		Total	
	No.	%	No.	%	No.	%
Hyponat.	2	12.5	14	87.50	16	100
Isonat.	79	68.7	36	31.8	115	100
Hypernat.	14	73.7	5	26.3	19	100
Total	95	63.3	55	36.7	150	100

$$\chi^2 = 24.71 \quad P = <0.01$$

The majority (73.7%) of hypernatremic cases came within 2 days of onset of diarrhea.

table (11)

Serum Sodium

level In Relation to body tempt.

Serum Sodium level	Body Tempt.					
	Fever		No Fever		Total	
	No.	%	No.	%	No.	%
Hyponat.	5	31.3	11	68.7	16	100
Isonat.	50	43.5	65	56.5	115	100
Hypernat.	15	78.9	4	21.1	19	100
Total	70	46.7	80	53.3	150	100

$$\chi^2 = 8.05 \quad P = < 0.01$$

* 46.7% of all studied cases presented with fever.

* The majority (78.9%) of hypernatemic cases presented with fever.

table (12)

Serum Sodium level in relation to vomiting.

Serum Sodium level	Vomiting					
	Present		Absent		Total	
	No.	%	No.	%	No.	%
Hyponat.	4	25	12	75	16	100
Isonat.	45	39.13	70	60.8	115	100
Hypernat.	14	73.7	5	26.3	19	100
Total	63	42	87	58	150	100

$$X^2 = 9.47 \quad P = < 0.01$$

* 42% of all studied cases presented with vomiting.

* 73.7% of hypernatremic cases presented with vomiting .

table (13)
Serum Sodium level in relation to the degree of dehydration.

Serum Sodium level	Degree of Dehydration							
	Mild		Moderate		Severe		Total	
	No.	%	No.	%	No.	%	No.	%
Hyponat.	8	50	6	37.5	2	12.5	16	100
Isonat.	80	69.6	35	30.4	—	—	115	100
Hypernat.	13	68.4	6	31.6	—	—	19	100
Total	101	67.3	47	31.4	2	1.3	150	100

$$\chi^2 = 17.8 \quad P = <0.01$$

- * Dehydration was predominantly mild (67.3%), (31.4%) were moderately dehydrated and 1.3% were severely dehydrated
- * 68.4% and 31.6% of hypernatremic cases presented with mild and moderate dehydration respectively.

table (14)
Serum Sodium level in relation
to the mean (\bar{X}) dehydration score.

Serum Sodium level	Number of cases	Mean (\bar{X})	S.D.
Hyponat.	16	4.9	2.7
Isonat.	115	2.9	1.8
Hypernat.	19	3.4	2.1
Total	150	3.2	2

- * The mean dehyd.score for the all studied cases was 3.2.
- * It was 4.9, 2.9, and 3.4 for hyponatremic, isonatremic and hypernatremic cases respectively.

Hypernat. in Relation to Fever, Vomiting and Severity of Dehyd.

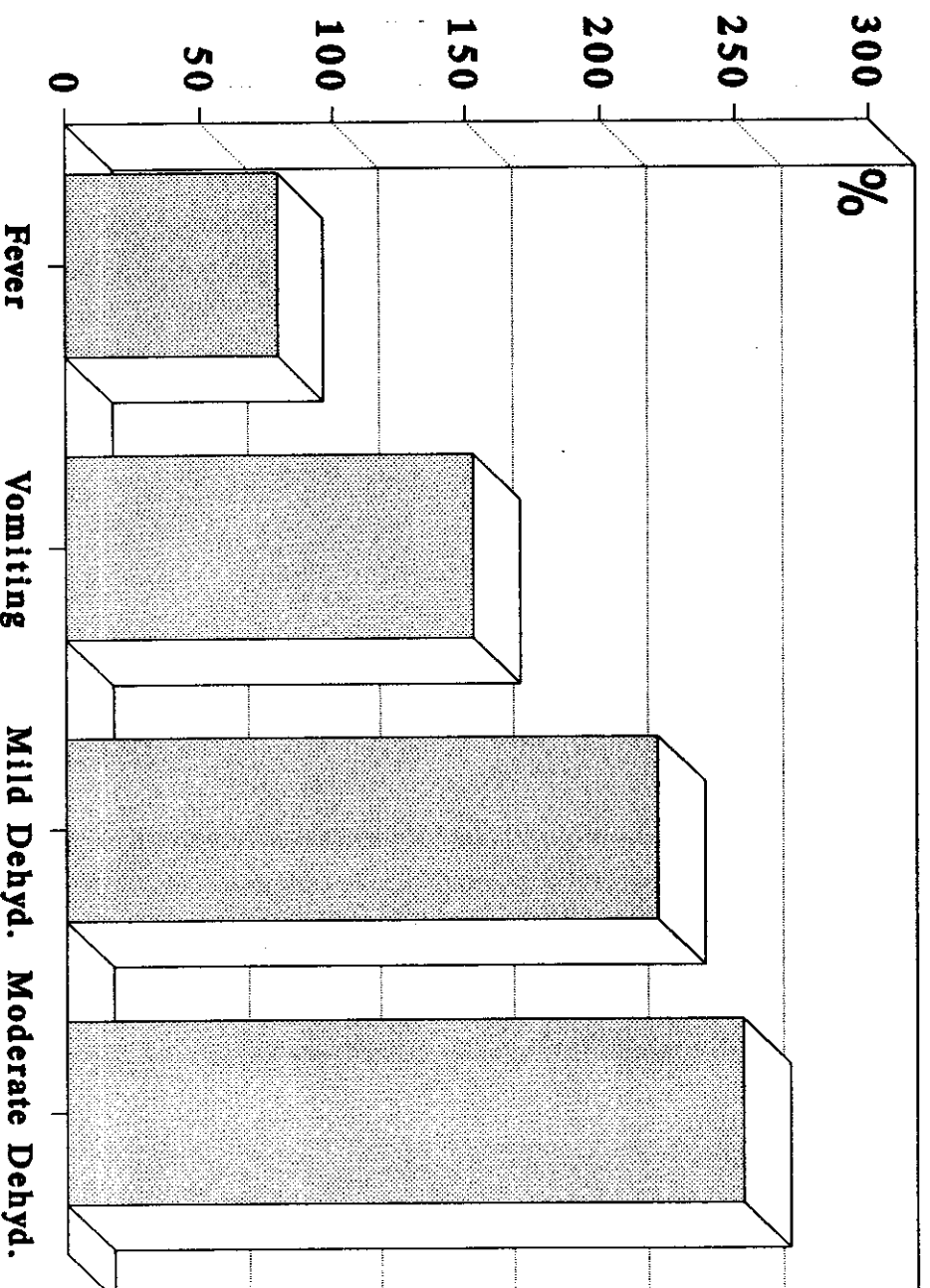


Figure (6)