

PD-A1 f-277

134 24773

Project # 2630137
S-3

ORAL REHYDRATION PROJECT

Progress Report

September 1983- December 1983

Title of Subproject:

Food As A Pharmacologic Agent

In Acute Diarrhea

Collaborating Institutes:

Nutrition Institute

002594

and

Al Azhar University (Pediatrics Dept.)

S T A F F

- | | |
|---------------------------------|--|
| 1- Dr. Lotfi El-Sayad. | Under Secretary of Health. |
| 2- Prof. Dr. Osman Galal. | Director of Nutrition Institute. |
| 3- Prof. Dr. Mahmoud El-Mougy | Prof. of Pediatrics Al Azhar Univ.. |
| 4- Dr. Mohamed Ihab Hegazy. | Assistant Prof. Biochem. Dept. Nutrition
Institute, |
| 5- Dr. Atef Sayed Donia. | Dept. of pediatrics, Al- azhar univ. |
| 6- Chemist Eglal El-Rashidi | Senior Chemist, Nutrition Institute. |
| 7- Chemist Zeinab Gendy. | Dept. of Food Analysis, Nutrition Inst. |
| 8- Chemist Ekhal Abd El- Raouf. | " " " " " " |
| 9- Chemist Safia Shafik. | " " " " " " |
| 10- Chemist Emtiaz Tolba. | " " " " " " |
| 11- Chemist Waffa Tawfik. | " " " " " " |
| 12- Chemist Aida Gendy. | " " " " " " |
| 13- Chemist Sayed Rehan. | Dept. of Biochem. Nutrition Institute. |

INTRODUCTION

Activities and Results:

To know more about the traditional foods given and used by children in diarrheal episodes, a special questionnaire was prepared. The text of the questionnaire was oriented to pick up most of the different kinds of foods used. These questionnaires were tested in the Nutrition Institute out-patient clinic. They were then revised and modified according to the needs of information wanted. The final text of the questionnaire is in Appendix I.

A sample of the urban community were chosen at random from Bab-El-Shaaria hospital. They were registered in the study to fill the questionnaire after knowing that the child fulfilled the criteria that they suffer from diarrhea. 100 cases served as a source of information needed.

The children age ranged from 6 - 24 months. 64 were males, and 36 were females. These data were collected during the months of August, September and October; i.e. during the summer period where the diarrhea were common.

The results of the sample and the informations yielded by the questionnaire revealed that all of the mothers would stop feeding the child from any type of food including breast milk. Food is substituted by fluids except in case of severe vomiting.

The decoctions used as a fluid included 18 different ingredients the commonest were a sugar and lemonade; next comes rice water followed by caraway in commonality. Details in Appendix II.

A large percentage of the sample used a semi-solid diet during recovery from diarrhea, the commonest being the Balouza and Yoghourt. Details in Appendix III.

Analysis:

1. Material

Materials used for the preparation of fluid diets were: Anise, Caraway, Fenugreek, Cumin and rice, five samples from each material were purchased independently from the local retail market from five different places in Cairo. Samples were cleaned from foreign materials before being analyzed chemically. Analysis employed the whole material in the dry state.

2. Laboratory procedures

Methods of analysis were carried out according to A.O.A.C. (1975) for crude protein, ether extract, ash, crude fiber, moisture, sodium, potassium and inorganic phosphorous. Results are listed in Appendix IV.

Results showed that:

a. Fenugreek has the highest protein content, the highest fat content was found in caraway. Cumin and Anise have the highest percent of ash. Carbohydrates are higher in rice and lower in Anise and caraway. Crude fiber is high in Anise and caraway, while in rice the content is very low.

b. Inorganic phosphorous is high in caraway and Anise, fenugreek and cumin have lower levels; while rice contains a very small amount. Caraway and cumin have higher levels of sodium, Fenugreek and Anise have moderate values, while rice showed the lowest level. Generally speaking, the sodium content of these decoctions is small. The highest values of potassium were found in anise, Caraway, Fenugreek and Cumin, rice showed the lowest values.

4

APPENDIX II

Traditional Fluids Used During Diarrhea

No.	Fluid	Percent of children in each
1	Buffalo milk	3
2	ise water	6
3	Caraway water	11
4	Fenugreek water	3
5	Stewed beans soup	2
6	Tomato juice	1
7	Mint water	5
8	Sugar solution	18
9	Lemonade	18
10	Rice water	15
11	Cumin	4
12	Tea	7
13	Chicken soup	3
14	Pepsi and 7-up	10
15	Tea with lemon juice	5
16	Tea with milk	2
17	Tea with mint	4
18	Orange juice	1

APPENDIX III

Traditional Semi-Solids Used During Diarrhea

No.	Semi-Solid	Percent of Children in each
1	Mashed Potato	3
2	Mehalabiyya	2
3	Belila	6
4	Cottage Cheese without salt	1
5	Balouza	25
6	Boiled Rice	4
7	Cold Starch Solution	9
8	Chick Pea	5
9	Stewed Beans	6
10	Germinated Beans (boiled)	1
11	Yoghurt	18
12	Mashed Pearls	1
13	Boiled Eggs	1
14	Tea + Biscuits	4
15	Vegetable Soup	2

APPENDIX IV

Chemical Composition of Seeds (100 g.)

	Moisture g.	Protein g.	Ether extract g.	Ash g.	Carbohydr- ates g.	Fiber g.	Sodium mg.	potassium mg.	Inorganic phosphorus mg.
e	10.6	16.7	1.1	7.6	34.7	18.3	42	1801	366
way	10.2	15.5	16.6	6.7	32.0	19.0	90	1584	456
greek	9.7	23.3	5.8	3.4	50.2	7.6	57	1051	205
n	14.9	12.3	12.8	8.3	42.7	9.0	72	1707	222
	15.0	7.0	0.6	0.4	76.1	0.9	17	81	13

Food Supplement	Preparation of 100 g. final wt. fluid			Nutritive value of 100 g. Eddible portion (fluid)								SODIUM	POTASSIUM (mEq/L)
	Quantities (g.)	Preparation procedure	Cook time mins	Moisture gm.	Ptn. gm	Fat gm	Carb. gm	Ash gm	Ca mg	Fe mg	Cal. Cal.		
Anise water ^x	anise 4, water 110	Seeds washed, water added, covered, boiled, strained.	5	99.58	trace	trace	trace	0.06	-	-	-	0.7	1.7
Caraway water ^x	caraway 4, water 110		5	99.67	trace	trace	trace	0.13	-	-	-	0.1	1.5
Fenugreek water ^x	Fenugreek 37, water 350		50	97.65	0.47	0.03	(1.4)	0.18	5	.08	2	0.3	2.9
Rice water	rice 20, water 200		30	97.1	0.13	0.29	2.97	0.21	2	.05	15	0.1	0.2
Yoghurt Zabadi	Fresh milk 100	fresh milk is boiled, cooled to 40 °C, culture of yaghourt and left?	360	84.7	4.1	5.5	4.87	0.8	160	.2	84		
Starch pudding (balouza)	Starch 4.7, water 94, sugar 7.8	Sugar dissolved in water (or milk), boiled, rice or starch added, stirred, left to cool	15	87.54	0.03	trace	11.89	0.14	-	-	46		
Milk pudding (shallahia)	Rice powder 3.3, milk 97, sugar 6.7		15	75.60	6.14	5.37	14.09	0.79	155	0.22	118		
Porridge (boiled)	Rice 50, water 55, fat 2.5	Rice added to water, covered heated on low heat, fat added.	30	52.84	3.75	2.83	40.42	0.30	5	0.45	204		
Bread (wheat)	Wheat flour 70, water 46, salt	Flat Syrian type, baked at 400-450 °C (flash heat)	3	40.5	7.51	0.66	50.0	1.01	16	1.61	231		
Decort. wheat (Belila)	Decort. wheat 21, Water 118	Seeds covered with water tightly covered, heated on low flame	75	81.18	1.90	0.35	15.86	0.29	8.8	0.79	70		
Belila soup			75	94.46	0.71	0.02	4.41	0.20	2.10	0.22	19		
Decort. beans (oul medames)	Dry beans 100, water 300 (gives 50% soup);		600	76.12	7.13	0.66	11.74	0.69	49	1.21	68		
Medames soup			600	85.4	4.91	0.22	8.32	0.61	23	0.71	53		
Cheese	Fresh milk 400	milk heated to 40 °C, renin & salt added, strained for 2 hours.	120	84.7	12.12	15.1	-	(8.9)	350	0.52	184		

Table IV -- Nutritive value and preparation procedure of food supplements:

x. 1, 2 & 13: analysis does not include added sugar.
2: carbohydrate figure is for mucilage content
18: ash figure exclude added salt.

Best Available Document