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Effects of Dietary Intervention on Epilepsy Seizures and Hyperactive Children

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ABSTRACT

Effects of Dietary Intervention on Epilepsy Seizures and Hyperactivity Children

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The study aimed to effect of dietary intervention on epilepsy seizures and hyperactive children. Subjected sample were 56 children classified into three groups: 16 female + 9 male with epilepsy only, 20 female + 5 male with ADHD only and 3female + 3male with epilepsy and ADHD combined. They selected from two places (Care Center For Special Need Children ,Ain Shams University and "Sondos" Center, Abbass Elakkad St., Nasr City Cairo governorate, their age ranged between 6:12 yrs. The study investigated their socio-economic factors, nutritional status; dietary intakes, using 24 hours recall, diet history, food habits, anthropometric measurements and clinical signs. Also Attention Deficit Hyperactive Disorder Test was applied on groups 2 & 3 and the number with time length of seizures was recorded. After statistical analysis, Correlation Matrix, for compiled data dietary intervention was applied for 80 days followed by retests and statistical analysis. Results of socio-economic factor showed illiteracy (17.8%, 21.4%), basic education was (17.8%, 8.9%) (39%) house wife & (32%) private work among mothers & fathers respectively. In addition, food habits reflected that; 45% of total children did not had their breakfast, average intake of milk & dairy products was only 4.14 units/wk. and water intake represented 775ml/day besides soft drink & tea (1.58 , 1.9 cups /day) respectively. While nutritional assessment revealed that 85% of them had underweight, 36% of total children suffered pale face and injury gums. Comparing with RDA & RNI, it was found that average intake before dietary intervention for protein ,vitamin C, calcium ,iron and selenium were deficient as 79% ,59%,57.6%, 80% and 69% respectively and excessive for sodium as 310%. The deficient were improved after dietary intervention for 125%, 120%, 130%, 136%,112 and 142 respectively, also clinical signs & food habits were improved. There were statistically significant differences between before and after dietary intervention in fat , water, vitamins A, C, B 12 and elements sodium, calcium, iron and selenium at ($P < 0.05$ & $P < 0.01$) as improvement situation. Also statistical significant relationships between fish makril intake, fresh vegetable & fruit and epilepsy & hyperactive improvement status were documented ($P < 0.01$). Statistically significant differences were founded also before and after dietary intervention as improvement for number, length of seizures and hyperactive status ($P < 0.01$). The study recommended by increments for intake of dietary protein, calcium, iron and selenium, fresh vegetables & fruits, sea fish as source of omega3 also water intake must be increased to 1.75 liters / day.

Keywords:

Epilepsy - Seizures – Epileptics Status - Attention Deficit Hyperactive Disorder - Nutritional Status - Food Habits - Dietary Intervention.

List of Contents

Subject	Page
1. Introduction.	1
2. Aim of the Study.	4
3. Review of Literature.	5
3.I. Epilepsy:	5
● Definition.	5
● Prevalence.	6
● History.	7
● Types.	9
● Symptoms.	12
● Causes.	15
● Diagnosis	19
● Seizures Impact on Children.	20
● Complications.	21
● Treatment.	23
3.II.Attention Deficit Hyperactivity Disorder.(ADHD):	37
● Definition.	37
● Prevalence.	38
● Types.	38
● Symptoms.	39
● Causes.	42
● Diagnosis .	45
● Negative effects of hyperactive.	47
● Complications.	48
● Treatment.	48
3.III.ADHD and Eepilepsy.	56

Following

List of Contents

Subject	Page
●Prevalence of ADHD in epilepsy .	56
●Seizure awakenings.	58
3.IV. Epilepsy and Nutrition.	58
3.IV. ADHD and Nutrition.	65
4.Subjects, Material & Methods.	71
5. Results & Discussion.	82
6. Recommendation.	159
7. English Summary.	161
8. References.	165
9. Appendix.	194

List of Tables

Tables	Subjects	Page
1	Represents the classification of the three children groups and their places.	73
2	Personal data of the three children groups.	84
3	Parent education levels of children from two different centers.	86
4	Classification of children ' parents according to their occupation and family size .	89
5	Eating breakfast, number of meals & snakes /day in the three group children.	93
6	Units dairy food intake in the three children groups.	95
7	Units fresh fruits &vegetable intake in the three children groups.	97
8	Water and juices intake in three children groups.	99
9	Units soft drinks and tea intakes in three children groups.	101
10	Pattern of consumption for the selected food items among epilepsy according diet history.	103
11	Pattern of consumption for the selected food items among ADHD according diet history.	104
12	Pattern of consumption for the selected food items among (epilepsy & ADHD) according diet history.	105
13	Adequate diet as dietary intervention.	107

Following **List of Tables**

14	Nutritional value of dietary suggested intervention meal as taken by three children groups.	107
15	Mean intakes of nutrients /day (pre And post intervention)for three children groups.	110
16	Mean intake (%)dietary intervention) for children groups.	115
17	Mean intake of minerals /day (pre& post dietary Intervention for three groups children.	120
18	Animal source from (protein, fat, iron and vit A) For three children groups.	123
19	Percent distribution of three group children according to (HT/Age)as percent of standard (pre &post dietary intervention)	126
20	Percent distribution of three group children according to (WT/Age)as percent of standard (pre &post dietary intervention).	128
21	Body mass index (BMI) of three group children (pre &post dietary intervention).	129
22	Seizures symptoms among epilepsy (group 1)children during seizures period.	133

Following **List of Tables**

23	Seizures symptoms among epilepsy & ADHD (group 3) children during seizures period.	134
24	Clinical sings (skin & face) in the three children groups.	137
25	Clinical sings (lips & tongue) in the three children .	139
26	Clinical sings (teeth & gums) in the three children groups.	141
27	Result of ADCH in the children groups (2 & 3).	143
28	Average intakes of nutrient in the three children groups pre & post dietary intervention).	146
29	Average intakes of vitamins in the three children groups pre & post dietary intervention).	148
30	Average intakes of minerals in the three children groups pre & post dietary intervention).	151
31	Correlation coefficient negatively correlated between some food items and [hyperactivity & seizure (number & length)] in three children groups.	154
32	Correlation coefficient positively correlated between some food items intake and [hyperactivity & seizure status (number & length)] in the three children groups.	156
33	Seizures status (length & no.) for the children groups (1 & 3) pre and post dietary intervention).	158

List of Figures

Figures	Subjects	Page
1	Mothers' eeducation of three children groups.	87
2	Fathers' education of three children groups.	87
3	Mothers' occupation of three children groups.	90
4	Fathers' occupation of three children groups.	90
5	Family size of three children groups.	91
6	Eating breakfast & number of meals & snakes / day in the three children groups.	93
7	Units of dairy food intake in the three children groups.	95
8	Consumption of fresh fruits & vegetable intake in the three children groups.	97
9	Water and juices intake in three children groups.	100
10	Units of soft drinks and tea intakes in three children groups.	101
11	Mean intake of water /day pre & post dietary intervention for the three children groups.	111

Following
List of Figures

12	Mean intake of nutrients /day pre &post dietary intervention for group (1) .	111
13	Mean intake of nutrients /day pre &post dietary intervention for group (2) .	112
14	Mean intake of nutrients /day pre &post dietary intervention for group (3) .	112
15	Mean intake of vitamins/day pre &post dietary intervention for group(1).	116
16	Mean intake of vitamins/day pre &post dietary intervention for group(2).	116
17	Mean intake of vitamins/day pre &post dietary intervention for group(3).	117
18	Mean intake of minerals /day pre &post dietary intervention for group(1).	121
19	Mean intake of minerals /day pre &post dietary intervention for group(2).	121
20	Mean intake of minerals /day pre &post dietary intervention for group(3).	122

Following
List of Figures

21	Animal source from (protein ,fat, iron and vit A) for three children groups.	124
22	Body mass index (BMI)of three group children pre intervention.	130
23	Body mass index (BMI)of three group children pre intervention .	130
24	Seizures symptoms among epilepsy (group 1) children during seizures period.	135
25	Seizures symptoms among epilepsy & ADHD (group 3) children during seizures period.	136
26	Clinical signs (skin &face) in the three children groups.	138
27	Clinical signs (lips& tongue) in the three children groups.	140
28	Clinical signs (teeth& gums) in the three children groups.	141

List of Abbreviations

ADDCH	Attention Deficit Disorder Connected With Hyperactivity.
ADHD	Attention Deficit Hyperactive Disorders.
AEDS	Anti Epileptic Drugs.
BMI	Body Mass Index.
Ca	Calcium.
CHO	Carbohydrate.
CT	Computed Tomography.
D	Day.
ECG	Electrocardiogram.
Ed.	Education.
EEG	Electroencephalogram.
FAO	Food Agriculture Organization.
Fe	Iron.
Fig	Figure.
GABA	Gamma- Amino Butyric Acid.
H/A	Height for Age.
HDL	High Density-Lipoprotein.
Hr	Hour.
HT	Height.
IU	International Unit.
LDL	Low Density-Lipoprotein.
Mg	Magnesium.
Na	Sodium.
NO.	Number.
Nutr. Ed.	Nutrition Education .

Following

List of Abbreviations

RDA	Recommended Dietary Allowance.
RNI	Reference Nutrients Intake.
SD	Standard Deviation.
Se	Selenium.
SES	Socio-Economic Situation.
SL	Seizure Length.
SN	Seizure Number.
Univ	University.
Vit	Vitamin.
W/A	Weight for Age.
WHO	World Health Organization.
WK	Week.
WT	Weight.
Yrs.	Years.
Zn	Zinc.

Introduction