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Abstract

TECHNOLOGICAL-BIOLOGICAL STUDIES ON SOME BABY FOODS TO BE PROCESSED IN IRAQ

SUMMARY

Food as well as proper nutrition is important factors for baby growth particularly in his early infancy^ On both depend h physical and mental progress.

In some instances breast feeding is not sufficient. In son others artificial feeding is essential; Normally, mother milk 1: some minerals and sometimes not ample enough. In such cases ado: tionnlfrod is essential. In Iraq, processed baby foods are lest This work aimed to study the possibility of manufacturing some of strained semisolid baby foods, to examine its utilization in infant nutrition.

Raw alimentary substances chosen for processing were of top quality. They included the following:

- 1.Fresh fruits ; Apples, pears and prunes in a total weight of 556 kilograms.
- 2.Fresh vegetables : Carrots, squash, potatoes, peas and spinach in a total weight of 141 kilograms.
- 3.Frosh meat : Veal and chickens in a total weight of 170 kilogram.

These materials were prepared orri processed as a semi solid baby food. They were cooked, blended and strained to obtain a suitable texture for swallow and to become palatable - for the baby.

The prepared foods were canned in the following quantities:

- a. 2880 fruit cans.
- b. 1440 vegetable cans .
- c. 1440 meat cans.

The moisture content, total solids, the calorific value, the total nitrogen, the fat, the carbohydrate, the fiber, the calcium, the phosphor s, the iron, the sodium, the potassium, vitamin A, vitamin B1vitamin and B2 vitamin C contents were determined in all from and canned foods.

Evaluation of the processed food utility in infant nutrition fjas carried out as follows:

- a. Group 1 : 8 babies including 4 males and 4 females were nourished on traditional foods consisting of Guigoz milk powder end Cerelact This ground was considered as a standard for comparison.
- b. Group 2 : Another 8 babies including 4 males and 4 females of the same weight, age and milieu were nourished on the processed foods in addition to Guigoz milk and Cerelac.

Nutrition of the two groups started at 3 months of age and continued for 6 months.

Babies were weighed each month. The average rate of growth was noticed according to the increase in weight of babies.

3y the end of each month, the average weight increase in both groups of babies was compared. Obtained results were statistically analyzed.

The results indicated the following:

1 .Composition of fresh foods:

a.Fresh vegetables were found to contain the highest quantities of moisture and fibers. Vegetables were the richest in calcium, sodium, potassium., vitamin A (except potatoes), vitamin 31 , vitamin 32 and vitamin C, Spinach contained the highest percentage of iron.

Vegetables showed low contents of calories and carbohydrate but moderate contents of protein, fat and phosphorus compared to fresh meat end fruits.

b.Fresh meat had the highest calorific value. It contained the highest content of protein, fat, phosphorus and iron (with the exception of spinach). Meat showed low contents of moisture,. but moderate contents of sodium, potassium, vitamin 31 and vitamin B2 .

- c. Fresh fruits contained the highest quantities of carbo-hydrate , low contents of protein, fat, fiber, calcium, phosphorus, iron, sodium, potassium, vitamin B1 , vitamin B2. and vitamin C and moderate contents of moisture, calories and vitamin A .
- 2.Composition of canned baby foods:
- a.Canned vegetables contained the highest quantities of moisture, calcium, sodium, potassium, vitamin A, vitamin B1 , vitamin B2 and vitamin C, low contents of calories, carbo-hydrate and fiber, but moderate contents of protein, fat, phosphorus and iron.
- b.Canned meat contained the highest quantities of calories, protein, fat, phosphorus and iron, low contents of moisture, but moderate amounts of sodium, potassium, vitamin 31 and vitamin 32.
- c.Canned fruits were found to contain the highest quantities of carbohydrates and fiber, low contents of protein, fat, phosphorus, iron, sodium, potassium, vitamin A, vitamin B2 vitamin 32 and vitamin C, but moderate contents of moisture, calories and calcium.

The use of processed food in infant nutrition:

Processed food was found palatable and had a good response. The results are summarized as follows:

C: The average weight increase of male babies exceeded the average weight increase of female babies. This increase lies between 26 - 49 grams / month in the first group, and between 26 - 53 grams / month in the second group during the nourishing period.

b. The average weight increase of both male and female babies of the second group exceeded the average increase in weight of the male and female babies of the first group. In the period

3 to 6 months, this increase amounted 72.2, and 79.4 % respectively.

c. The average weight increase of male and female babies of the second group was 102.9%, 113.6% higher than that weight of the first group in the period from 6 to 9 months of the experiment.

d. Statistical analysis showed truthfulness of the hypothesis that the increase in weight of the second -group babies was highly significant compared to that of first group with a difference higher than 99.5 %

Results emphasise the importance of processed baby foods in addition to traditional food in nourishing babies in their early infancy

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