

THE ANALYSIS OF POOR NUTRITION AND OF SOME NUTRITION DIETARY IMBALANCE IN THE HUMAN BODY'S IRON DEFICIENCY

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Abstract

In the current work we have tried to emphasize the nutrition importance of the iron as a natural mineral element present in a big variety of food, be them of vegetal or of animal origin, be them processed or less processed as the nowadays consumers manifest an increased request for safer food, adopting different diets which many times favor the loss of nutritious elements and of active biological substances, losses caused by the frequent dietary imbalances. In this study we try to underline that a diversified and balanced nutrition reduces the necessity to supply the nutritious elements from food with synthesis substances because during the nutrition supplement imbalances might appear in the human body and they can lead to very unpleasant consequences.

Key words: balanced nutrition, dietary imbalances, non caloric nutrients, nutrition anemias,

INTRODUCTION

A balanced nutrition needs a plan, an aim, as well as the effort to include in the regularly meals a variety of food, which although it seems easy it is not always easy to do, because many times we consume more from a single nutrition group which is a favorite to us and we avoid to consume other kind of food or we are too convenient and we reject quality.

The food's nutritional studies and analyses offer them safety in consumption and the decrease of nutritional lacks apparition on the basis of dietary imbalances which can cause negative aspects upon the human health. The lack of iron can lead to anemy, tiredness, and a high sensitivity to infections. In what food is concerned iron can be found in: chicken meat, turkey meat, fish, red meat, beans, vegetable with green leaves.

The strategies to prevent the nutritional lacks must be firstly durable and imply the efforts of more domains and organizations like: agriculture, the ministry of health, ministry of commerce, food industry, education and the communication sector.

MATERIAL AND METHOD

The material and the study method in this work is represented by the analysis of one person's nutrition ration, person that has got an average income and one who adopts a mainly vegetarian diet three days a week and who adopts a diet rich in animal origin products during the other four days of the week.

The research method is represented by the nutrition search of the ingested products during 7 days, and it includes the following steps

The appreciation of the daily average iron consumption in comparison with the recommendations and the establishment of the main deviations has been done through:

1. Appreciating the daily caloric ration
2. Determining the iron contribution from the food consumed over a period of 7 days.
3. The appreciation of the daily caloric ration is done by calculating the caloric content of the ingested food for the people taken into study. For this we shall make tables with the ingested food on groups and sub groups, the food quantity also being written down and mentioned, the quantity shall be referred to in grams per day, after which with the help of the tables containing the food's composition we can establish the diet's energetic contribution, following the next steps: writing in the table the calories brought by each kind of food in particular, establishing the P, L, and G contribution; adding up the caloric values in order to obtain the total of calories; calculating the energetic value of the food using caloric coefficients which for proteins and carbohydrates are 4,1 kcalories and for lipids are 9,3 kcal and comparing the results with the national and international nutritional recommendations, according to one's age, sex, professional (physical) activity, and particular physiological states (pregnancy, breastfeeding).

- In order to establish the iron contribution brought in the human body through nutrition we have analyzed the following:

- The quantity of hemic iron (Fe) brought by the animal origin food (the MFP) mentioning that only 40% from the FeMFP is hemic iron Fe, 60% being non-hemic iron Fe

- The quantity of non-hemic iron (Fe) brought by other kind of food than of animal origin to which we are going to add the quantity of non-hemic iron (Fe) brought by animal origin food.

- The quantity of hemic iron (Fe) absorbed which represents only 23% from the total of hemic iron (Fe) brought by food.

- The quantity of non-hemic iron (Fe) absorbed shall be of 3%, 5% or 8%, percents which are established according to the contribution of ingested C vitamin.

In order to find out the total quantity of iron from the diet we shall add up the quantities of absorbed hemic iron (Fe) and of absorbed non-hemic iron.

RESULTS AND DISCUSSIONS

In order to interpret the results related to the iron's alimentary content, its digestive disponibility and the degree of absorption we started from a few ANR/RNC data (recommended nutritional contribution) which considers that:

- Fe/ the iron is present in the human body in relatively small amounts 4g at men and 2,5 g at women;

- A daily rational nutrition contains about 15 mg of iron from which only 5-10% of the ingested iron is absorbed by the human body;

- The absorption of iron is an adaptable process increasing in case the iron deposits decrease or decreasing in case of an over increase of iron;

- the daily losses of iron are small due to the iron's metabolism, which is performed in a closed circuit, thus the everyday losses represent only 1-2 mg, which represents only 1/1000 – 1/14000 from the total iron reserve from the body.

Other useful information which have contributed to the interpretation of the results mentioned in tables 1 are represented by the content and analysis of the alimentary ration in what the proteins and the carbohydrates are concerned, because in the case of the non-hemic iron the animal origin proteins form an essential promoter for the increase of iron absorption from complex kind of food.

Table 1

The analysis of iron Fe content and the energetic value of the nutrition over a period of 7 days

THE ANALYSIS DAY/TOTAL RATION	CALORIC NUTRITIOUS SUBSTANCES mg/100g			NON-CALORIC NUTRITIOUS SUBSTANCES mg		ENERGETIC VALUE, Kcal
	P	L	G	Vit. C	Fe	
DAY I TOTAL RATION	62	43	132	13	10,57	1338,8
DAY II TOTAL RAȚIE	142,62	104,4	668,09	380,8	26,44	4294,79
DAY III TOTAL RATION	90,6	67,1	146,5	110	16,33	1695,7

DAY IV TOTAL RATION	102,17	82,36	376,6 1	376,5	24,7	2731,26
DAY V TOTAL RATION	68	38,5	242, 2	66,26	18,85	1550,2
DAYS VI TOTAL RATION	170,47	68,67	681, 57	192	33,7	4132,33
DAY VII TOTAL RATION	92,2	52,5	232	67,66	14,93	1601,5

The increase of the iron absorption rate is due to the proteins, as the hemoglobin being a digestion product of the globine might fix the iron, preventing the formation of insoluble precipitates with the iron's absorption inhibitors. Reporting EV (energetic value) of the nutrition analyzed in this study to the ANR values (recommended nutritional contribution) fit for an adult female who has got 58kg, it comes out that the above mentioned type of person does not fit in the recommended limits in none of the 7 days of research. In this case The EV reported to the body weight must be of 1392 kcalories/day.

In table I it can be observed that the Ev of nutrition is very unbalanced registering percentage overcomes between 308,53% in day II of analysis and 111,36% in day V of analysis.

After these evaluations we notice that the studied nutritional profile has got a significant imbalanced character.

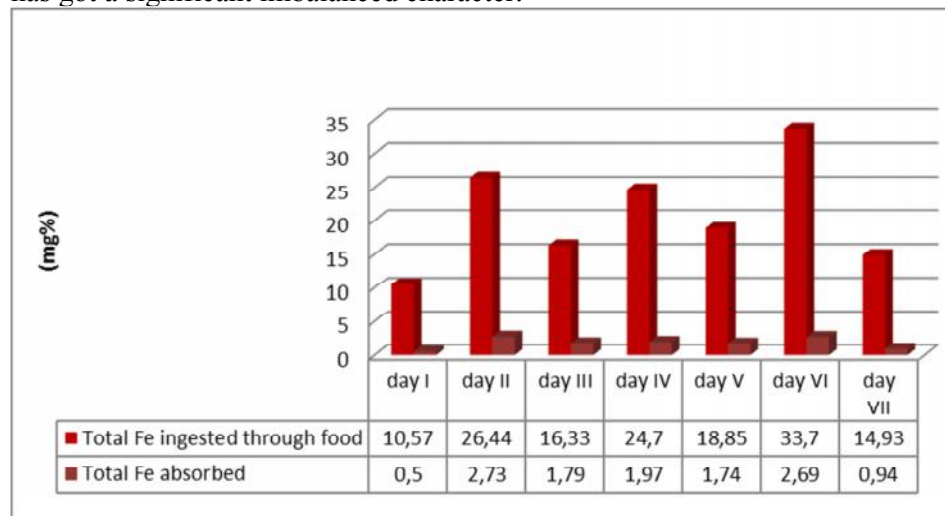


Fig. 1 The Fe/ iron ingestion and the quantity of iron absorbed during the studied period.

In table I it can be noticed that the iron existant in the food is absorbed in a proportion of 25% so that in day I of analysis the quantity of absorbed iron has been of only 0,5 mg and in day VII 0,94 mg have been absorbed, quantities which do not fit in the nutritionally recommended limits, because the necessary of iron absorbed from food must be of 1-2 mg/day. In day II and in day VI the quantity of absorbed iron has registered small overcomes, which does not represent a threat for the human health because the human body absorbs iron according to the already existing iron deposits in the body.

CONCLUSIONS

A general conclusion of this study is to find variants of diets which from the quantity point of view to cover the body's energetic expenditure and which from the quality point of view to supply the nutrients necessary for the biological functions of the body and, in order to avoid alimentary imbalances the food must be in such a way combined and processed so that for example a food rich in certain nutrients should not prevent the participation of another food rich in other kind of nutrients.

A balanced nutrition must be controlled from the calory point of view, thus one can check if the energetic contribution brought by the diet is equal with the spent energy; a balanced nutrition must be moderate through the elimination of some useless or excessive sugar, salt and fat components; it must also be varied, against monotony and one must avoid eating the same thing day after day.

If one fulfills these features, any person's diet must represent a factor to maintain his/her own health.

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