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Determination of Dietary Status as a Public Health Problem among Rural Women

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Abstract: Energy, protein and iron intakes and status were investigated in 471 married women, 20-56 years old, selected by 2-stage random sampling, in rural areas in Islamic Republic of Iran. Pre-tested 24-hour dietary recall questionnaire was used to get data on nutrition intakes. Although average total iron intake was acceptable, only 6.4% of women derived at least 4% of their total intake from animal iron. Average energy and protein intakes were inadequate. Finding of this study showed that this group with medium-to-low socioeconomic status should receive particular attention in national health and nutrition planning.

Key words: 2-stage random sampling, 24-hour dietary recall, iron intake, energy intake, protein intake

Introduction

Strategic planning and implementing programs to promote dietary status in a community requires a detailed knowledge of the magnitude of the problem. In the last decade, attention has been focused on means of eliminating food insecurity and hunger worldwide. The 1992 International Conference on Nutrition and the 1996 World Food Summit both stressed the urgent need to reduce food insecurity and hunger. The 1996 World Food Summit specifically brought back to center-stage in the development debate, the issue of hunger and food insecurity as both the cause and effect of poverty and slow growth. In the wake of this new push, the Millennium Development Goals were launched bringing the international communities to work together to achieve the set goals by 2015 (Migotto *et al.*, 2005). The first Millennium Development Goal is to eradicate extreme poverty and hunger. The incidences of food insecurity and poverty are particularly devastating in the developing countries and a lot of resources are being channeled towards programs aimed at eradicating food insecurity and poverty by various international organizations and government of the developing nations for these reasons this study was conducted to determine dietary status of mothers in the rural area of Khorramabad, the provincial, where 26% of the total population of Lorestan lives. Lorestan province, situated in western Islamic Republic of Iran, is a province of medium-to-low socioeconomic status. Although very few nutritional studies have been conducted in the province, there are currently plans to improve public health and nutrition.

Low intakes of animal iron seem to be a problem in many parts of the Islamic Republic of Iran (Djazayery, 1991; Salami, 1996) studies have shown low iron status to be similarly prevalent, particularly among women,

adolescents and children (Djazayery *et al.*, 1991; Salami, 1996; Soheiliasad, 1996; MHME, 1995; UNCF, 1993). A pre-requisite for planning and selecting appropriate strategies to promote iron status and alleviate anemia and eliminating food insecurity and hunger, a common public health and nutritional problem in many communities, is a knowledge of dietary status. The objective of the paper were to determine dietary energy protein and iron intakes status of married woman in Lorestan, a province with a medium economic status It is hoped that the findings of this study will assist the authorities in designing suitable programs in national planning.

Materials and Methods

The iron intake and status were investigated in 471 married women, 20-56 years old, selected by 2-stage random sampling, in Lorestan rural areas. The purpose of the study was explained to the women. Interviews were conducted by nutrition MSc students. A validated, pre-tested 24-hour dietary recall questionnaire was used to get data on daily intake of iron (total, plant and animal iron). Energy and protein intakes were also calculated to obtain a better understanding of women's overall nutrition. All intakes were compared with the 1989 United States of America Food and Nutrition Board of Commission on Life Sciences of National Research Council recommended dietary allowances (RDAs).

Results and Discussion

Figure 1 shows the proportion of the people with acceptable energy, protein, total iron, animal iron and plant iron. Although average total iron intake (63.2%) and protein (64.3%) were acceptable but it is important to distinguish the proportion of total iron obtained from animal food sources. In our study, while 63.2% of

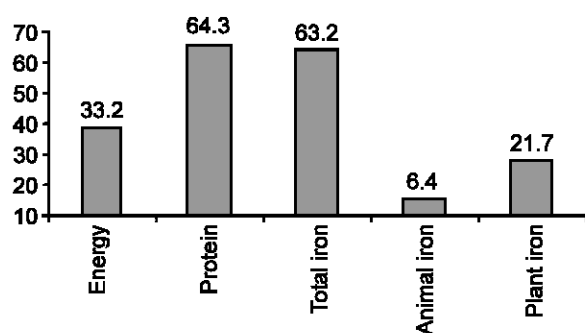


Fig. 1: Proportion (%) of the people with energy, protein, total iron, animal iron and plant status (above indicated cut off)

Table 1: Absolute and relative frequency distribution of dietary energy, protein and iron intake

Parameter	No. (n = 399)	%
Energy(kcal)		
RDA>100%	150	33.2
RDA<100%	314	66.8
Protein(g)		
RDA>75%	302	64.3
RDA<75%	168	35.7
Total iron(mg)		
RDA>75%	296	63.2
RDA<75%	173	36.8
Animal iron		
RDA>4%	30	6.4
RDA<4%	440	93.6
Plant iron		
RDA>20%	102	21.7
RDA<20%	368	78.3

RDA = Recommended dietary allowance

subjects had a total iron intake of more than 75% of RDA, only 6.4% (i.e. 30 women) had an iron intake from animal foods equivalent to at least 4% of their intake, whereas 21.7% obtained at least 20% of their total intake from plants. The logic behind selecting these cut-off points is based on the difference in the absorbability of plant (non-haem) and animal (haem) iron. While 5%-10% of dietary iron is generally haem iron (with 25% absorbability), the remainder is non-haem, mostly of plant origin (with only 5% absorbability) (Czajka, 1996).

As suggested by scientists (McLaren, 1981) if at least 20% of a community has an intake below 75% RDA, then the deficiency of that nutrient should be considered a public health problem in that community therefore, in Table 1 protein with 35.7% and total iron with 36.8% intakes (above 20% of community) intakes below 75% RDA and should be considered as a problem in this region.

Also, Table 1 shows the participants, daily energy, protein and iron intakes suggest the general nutrition of the women to be unsatisfactory. Only 33.2% of women had daily energy intake above 100% RDA. This situation is much the same as in some the other parts of Islamic

Republic of Iran where studies have been conducted Dietary iron intake should be considered with caution although total intake may be sufficient (UNCF, 1993; Djazayery *et al.*, 1992).

Conclusion: From the nutritional data obtained from 471 mothers in rural areas of khorramabad, we concluded that the general nutrition of the women to be unsatisfactory, on the other hand in the case of total dietary iron, as well as total dietary protein, the proportions of the sample with intakes below 75% of the RDA are reported, then the deficiency of iron and protein should be considered a public health problem in this area.

On the other hand the average daily intakes of animal iron were very low thus individuals may be at risk of anemia, too. These should, therefore, receive particular attention in the national health and nutrition planning.

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