Nutrition and Overweight

19

Co-Lead Agencies: **Food and Drug Administration**
National Institutes of Health

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Goal

Promote health and reduce chronic disease associated with diet and weight.

Overview

Nutrition is essential for growth and development, health, and well-being. Behaviors to promote health should start early in life with breastfeeding[1] and continue through life with the development of healthful eating habits. Nutritional, or dietary, factors contribute substantially to the burden of preventable illnesses and premature deaths in the United States.[2]

The *Dietary Guidelines for Americans* emphasize the need for adequate consumption of iron-rich and calcium-rich foods.[3] Although some progress has been made since the 1970s in reducing the prevalence of iron deficiency among low-income children,[4] much more is needed to improve the health of children of all ages and of women who are pregnant or are of childbearing age. Since the start of this decade, consumption of calcium-rich foods, such as milk products, has generally decreased and is especially low among teenaged girls and young women.[5] Because important sources of calcium also can include other foods with calcium—occurring naturally or through fortification—as well as dietary supplements, the current emphasis is on tracking total calcium intake from all sources, demonstrated by an objective in this focus area. In addition, in recent years there has been a concerted effort to increase the folic acid intake of females of childbearing age through fortification and other means to reduce the risk of neural tube defects.[6,7]

Disparities

Disparities in health status indicators and risk factors for diet-related disease are evident in many segments of the population based on gender, age, race and ethnicity, and income. Despite concerns about the increase in overweight and certain excesses in U.S. diets, segments of the population suffer from undernutrition, including persons who are socially isolated and poor. With food security and other measures of undernutrition, such as growth retardation and iron deficiency, disparities are evident based not only on income but also on race and ethnicity.

Opportunities

Policymakers and program planners at the national, State, and community levels can and should provide important leadership in fostering healthful diets and physical activity patterns among people in the United States. The family and others, such as health care practitioners, schools, worksites, institutional food services and the media, can play a key role in this process. For example, registered dietitians and other qualified health care practitioners can improve health outcomes through efforts focused on nutrition screening, assessment, and primary and secondary prevention.

Several actions are recognized as fundamental in achieving the 2010 objectives:

- Improving accessibility of nutrition information, nutrition education, nutrition counseling and related services, and healthful foods in a variety of settings and for all population groups.
- Focusing on preventing chronic disease associated with diet and weight, beginning in youth.
- Strengthening the link between nutrition and physical activity in health promotion.

- Maintaining a strong national program for basic and applied nutrition research to provide a sound science base for dietary recommendations and effective interventions.
- Maintaining a strong national nutrition monitoring program to provide accurate, reliable, timely, and comparable data to assess status and progress and to be responsive to unmet data needs and emerging issues.
- Strengthening State and community data systems to be responsive to the data users at these levels.
- Building and sustaining broad-based initiatives and commitment to these objectives by public and private sector partners at the national, State, and local levels.

REPRODUCTIVE HEALTH–RELATED OBJECTIVES

Nutrition and Overweight

Goal:

Promote health and reduce chronic disease associated with diet and weight.

Number Objective Short Title

Iron Deficiency and Anemia

19-12. Iron deficiency in young children and in females of childbearing age

19-13. Anemia in low-income pregnant females

19-14. Iron deficiency in pregnant females

HEALTHY PEOPLE 2010 OBJECTIVES

Iron Deficiency and Anemia

19-12. Reduce iron deficiency among young children and females of childbearing age.

Target and baseline:

Objective	Reduction in Iron Deficiency*	1988-94 Baseline	2010 Target
		Percent	
19-12a.	Children aged 1 to 2 years	9	5
19-12b.	Children aged 3 to 4 years	4	1
19-12c.	Nonpregnant females aged 12 to 49 years	11	7

*Iron deficiency is defined as having abnormal results for two or more of the following tests: serum ferritin concentration, erythrocyte protoporphyrin, or transferrin saturation. Refer to *Tracking Healthy People 2010* in this volume for threshold values.

Target setting method: Better than the best.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

Select Populations, 1988-94 (unless noted)	Iron Deficiency		
	19-12a. Aged 1 to 2 Years	19-12b. Aged 3 to 4 Years	19-12c. Females of Childbearing Age
	Percent		
TOTAL	9	4	11
Race and ethnicity			
American Indian or Alaska Native	DSU	DSU	DSU
Asian or Pacific Islander	DSU	DSU	DSU
Asian	DNC	DNC	DNC
Native Hawaiian and other Pacific Islander	DNC	DNC	DNC
Black or African American	10	2	15
White	8	3	10
Hispanic or Latino	DSU	DSU	DSU
Mexican American	17	6	19
Not Hispanic or Latino	DNA	DNA	DNA
Black or African American	10	2	15
White	6	1	8
Family income level*			
Lower income (less than or equal to 130 percent of poverty threshold)	12	5	16
Higher income (greater than 130 percent of poverty threshold)	7	3	9
Disability status			
Persons with disabilities	DNC	DNC	4 (1991-94)
Persons without disabilities	DNC	DNC	12 (1991-94)

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
*A household income below 130 percent of poverty threshold is used by the Food Stamp Program.

19-13. Reduce anemia among low-income pregnant females in their third trimester.

Target: 20 percent.

Baseline: 29 percent of low-income pregnant females in their third trimester were anemic (defined as hemoglobin < 11.0 g/dL) in 1996.

Target setting method: Better than the best.

Data source: Pregnancy Nutrition Surveillance System, CDC, NCCDPHP.

Low-Income Pregnant Females, Third Trimester, 1996	Anemia Percent
TOTAL	29
Race and ethnicity	
American Indian or Alaska Native	31
Asian or Pacific Islander	26
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African American	DNC
White	DNC
Hispanic or Latino	25
Not Hispanic or Latino	DNA
Black or African American	44
White	24
Disability status	
Females with disabilities	DNC
Females without disabilities	DNC

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.

19-14. (Developmental) Reduce iron deficiency among pregnant females.

Potential data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

The terms anemia, iron deficiency, and iron deficiency anemia often are used interchangeably, but are not equivalent. Iron deficiency ranges from depleted iron stores without functional or health impairment to iron deficiency with anemia, which affects the functioning of several organ systems. Iron deficiency anemia is more likely than iron deficiency without anemia to cause preterm births, low birth weight, and delays in infant and child development.[8, 9, 10] Iron deficiency (with and without anemia) in adolescent females has been associated with decreased verbal learning and memory.[11]

Anemia can be caused by many factors other than iron deficiency, including other nutrient deficiencies, infection, inflammation, and hereditary anemias. Anemia is used for monitoring risk of iron deficiency at the State and local levels because of the low cost and feasibility of measuring hemoglobin or hematocrit in the clinic setting.[12] Anemia is a good predictor of iron deficiency when the prevalence of iron deficiency is high, such as during the third trimester of pregnancy. It is not a good predictor of iron deficiency when the prevalence of iron deficiency is expected to be low, such as among white, non-Hispanic children aged 3 to 4 years in the United States. In that case, the majority of anemia is due to other causes.[4] However, changes in the prevalence of anemia over time at State and local levels can be used to evaluate the effectiveness of programs to decrease the prevalence of iron deficiency.

Nonpregnant females of childbearing age are at increased risk for iron deficiency because of iron loss during menstruation coupled with inadequate intake of iron.[12] Pregnant females are also at increased risk because of the increased iron requirements of pregnancy.[12, 13] Consequently, a Healthy People 2010 objective has been established to reduce the prevalence of anemia among low-income pregnant females in their third trimester. Although groups other than low-income females are considered at risk for iron deficiency during pregnancy, there are no nationally representative data on the prevalence of iron deficiency or iron deficiency anemia among pregnant females.

National data indicate that only one-fourth of all females of childbearing age (12 to 49 years) meet the U.S. recommended dietary allowance for iron (15 mg) through their diets.[14] Iron deficiency among females of childbearing age may be prevented by periodic anemia screening and appropriate treatment and by counseling them about better eating practices, such as selecting iron-rich foods, taking iron supplements during pregnancy, increasing consumption of foods that enhance iron absorption (for example, orange juice and other citrus products), and discouraging consumption of iron inhibitors (for example, coffee and tea) with iron-rich foods.[12] Some good sources of iron include ready-to-eat cereals with added iron; enriched and whole grain breads; lean meats; turkey dark meat; shellfish; spinach; and cooked dry beans, peas, and lentils.

Terminology

Anemia: A condition in which the hemoglobin in red blood cells falls below normal. Anemia most often results from iron deficiency, but also may result from deficiencies of folic acid, vitamin B12, or copper, or from chronic disease, certain conditions, or chronic blood loss.

***Dietary Guidelines for Americans*:** A report published by the U.S. Department of Agriculture and U.S. Department of Health and Human Services that explains how to eat to maintain health. The guidelines form the basis of national nutrition policy and are revised every 5 years. This chapter refers mostly to the 2000 guidelines.

Food security: Access by all people at all times to enough food for an active, healthy life. It includes at a minimum (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways.

Food insecurity: Limited or uncertain availability of nutritionally adequate and safe foods or limited and uncertain ability to acquire acceptable foods in socially acceptable ways.

Iron deficiency: Lack of adequate iron in the body to support and maintain functioning. It can lead to iron deficiency anemia, a reduction in the concentration of hemoglobin in the red blood cells due to a lack of iron supply to the bone marrow.

Medical nutrition therapy: Use of specific nutrition counseling and interventions, based on an assessment of nutritional status, to manage a condition or treat an illness or injury.

Nutrition: The set of processes by which nutrients and other food components are taken in by the body and used.

Obesity: A condition characterized by excessive body fat.

Osteoporosis: A bone disease characterized by a reduction in bone mass and a deterioration of the bone structure leading to bone fragility.

Overweight: Excess body weight.

Physical activity: Bodily movement that substantially increases energy expenditure.

Registered dietitian: A food and nutrition expert who has met the minimum academic and professional requirements to receive the credential "RD." Many States and Commonwealths also have licensing laws for dietitians and nutrition practitioners.

Sedentary behavior: A pattern of behavior that is relatively inactive, such as a lifestyle characterized by a lot of sitting.

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