The Nutritional Status and Needs of Women of Reproductive Age

The nutritional status of an adult woman is the culmination of nutrient intake, metabolism, and utilization over the course of a lifetime beginning with her nutritional status at birth.\(^1\) Weight at birth is a proxy indicator of nutritional status in utero and may be linked to health problems later in life such as cardiovascular disease, hypertension and cancer. Poverty is related to poor nutritional status, usually due to factors limiting food access. Nutritional insults resulting from poverty are important since the effects are cumulative. Adolescence is a time when food habits are finalized, laying the foundation for adult nutritional status. Nutritional problems among American women are reflected in high rates of overweight and obesity as well as eating disorders which can lead to underweight and compromised nutritional status.

The prevalence of iron deficiency anemia in women was 4-10%, according to NHANES II, 1976-80.\(^6\)

Folate deficiencies prior to and during pregnancy lead to neural tube defects in 2,500 infants annually.\(^7\)

It is projected that 50,000 US lives each year may be saved by increasing folate to prevent high levels of homocysteine, a factor for heart disease and stroke.\(^8\)

Moderate and low levels of serum folate are associated with greater risk of developing colon and cervical cancer as well as precancerous lesions of the cervix.\(^9\)

Anorexia and bulimia affect women of all races and socioeconomic strata. Among young women, there is a 1% prevalence of anorexia and a 4-20% prevalence of bulimia.\(^10\)

Only 30% of pregnant women gain weight within IOM recommendations.\(^11\)

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<tr>
<th>Percentage of (Age Adjusted) Overweight Females 20 to 74 Years Old</th>
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<tbody>
<tr>
<td>Race and Hispanic Origin</td>
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<tr>
<td>--------------------------</td>
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<tr>
<td>White, non-Hispanic</td>
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<tr>
<td>Black</td>
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<tr>
<td>Mexican American</td>
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<tr>
<td>All Females</td>
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Specific nutritional deficiencies affect women as well as their offspring:

- The Food and Nutrition Board's new Dietary Reference Intakes recommends 1300 mg of calcium/day for young people 9-18 years of age, 1000 mg for adults 19-50 and 1200 mg a day for all older Americans without regard to gender.\(^4\) Low dietary intake of calcium during adolescence and early adulthood is associated with lower peak bone mass levels and possibly an increased risk of osteoporosis later in life. Smoking, not performing load-bearing exercise, and poor diet during the period of maximal bone mineralization are all associated with inferior bone health.\(^5\)

Predictors and Consequences of Nutritional Status

Johnson (1996) describes five societal factors which shape women's eating patterns:

1) employment outside the home -- by the year 2000, an estimated 50% of the workforce will be women and 60% of women will work outside the home, concomitant with a large increase in the number of working women with young children (< 6 years old);

2) increased consumption of prepared foods which are higher in fat and sodium than home-prepared foods;

3) an increase in single female-headed households (55% of these families live in poverty, and as a result of limited resources eat less fresh fruits and vegetables);

4) increased number of meals eaten away from home, with the associated increased fat, sodium, calorie and cholesterol intake, and decreased iron, calcium, vitamin C, and fiber intake;
5) increased tobacco use and consequent poor eating habits.

Economic necessity, desire for personal and professional fulfillment, and welfare to work legislation are associated with record numbers of women in all age groups being employed and burdened by the multiple responsibilities of employment, child care, and home management. Working women continue to be the primary person managing the household (cooking, cleaning, caring for children, etc.) in addition to working full-time. In both single female-headed households as well as in married households, the burden of these multiple roles has resulted in a decrease in time available for food shopping and meal preparation, and, in turn, to changes in food consumption patterns.

Risk factors for overweight and obesity include physical inactivity, middle age (30-60 years of age), low socioeconomic status, acceptance of larger body image as ideal, minority race, genetic predisposition, family history, high fat diet, and multiparity.

In contrast, risk factors for anorexia and bulimia include adolescent/young adult age, high socioeconomic status, Caucasian race, very small body image as ideal, extreme levels of physical activity, controlled dietary intake low in calories and nutrients, family history and unrealistic achievement expectations.

Poverty, low educational attainment, high parity, and smoking are all factors placing women ages 20-44 at greater risk for iron deficiency anemia.

- Low intake of several nutrients is associated with poor health outcomes: in addition to neural tube defects in fetuses and infants, folate deficiencies can contribute to cardiovascular disease, colon and cervical cancer and precancerous lesions of the cervix; low intake of iron is associated with anemia; low dietary intake of calcium during adolescence and early adulthood is associated with lower peak bone mass levels and possibly an increased risk of osteoporosis.

**Interventions**

Interventions to prevent and reduce obesity include: decreased energy intake, exercise, behavior modification, and pharmacotherapy as needed. Institutions such as schools and the National Institutes of Health are working to develop strategies useful to prevent obesity. The National Heart, Lung and Blood Institute has produced a set of culturally appropriate nutrition education materials, and the CDC is merging its physical activity and nutrition programs to effect change in the prevalence of obesity.

To increase folate intake, as of January 1, 1998, the FDA requires fortification of grain products with between 0.43 and 1.4 mg folate per pound of product.

**Issues for Policy, Practice and Research**

The implications of this review for nutrition policy and research vary in their scope and nature. They include:

- Nonpregnant women are less likely to see a physician regularly for prevention and health education.
- School health clinics may provide increased access to nutritional screening.
- Increased nutrition education in schools at all levels potentially will help bolster the cumulative effect of nutrition.
- Federally-funded food and nutrition programs fill gaps in women's nutrition intake.
• Routine assessment of dietary practices of all pregnant women (not just those using public health clinics) would achieve earlier detection of nutrition and other health problems.

• Strategies to screen women in a variety of settings (including schools) in order to detect iron deficiency anemia in nonpregnant young women are important. The Institute of Medicine recommends that all non-pregnant women of childbearing age be screened for anemia at least once between 15 and 25 years of age.6

• Strategies have yet to be developed to meet the recommendations of the American Health Foundation’s Expert Panel on Healthy Weight, which include:
  
  - Adopt a healthy diet that is low in fat (less than or equal to 25% of energy from dietary fat) and high in fiber (greater than or equal to 25 g dietary fiber from whole grains and cereals, fruit and vegetables) and perform daily exercise.

  - On reaching peak growth at the age of approximately 21 years, body weight should be stabilized and maintained at a constant, healthy weight (BMI less than or equal to 25).

  - Healthier weight goal: individuals who have a BMI > 25 should be encouraged to lose the equivalent of about two BMI units (10-16 lbs., on the basis of their height).

• The potential negative consequences of population-wide food supplementation recommendations remains a concern.

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* Given the formative nature of our research on this topic, this material does not reflect an exhaustive list of potential issues of concern. Rather, the material below reflects selected preliminary ideas generated to stimulate dialogue and further study. In addition, certain issues may have been intentionally omitted from this section in favor of their incorporation in other materials prepared as part of a broader initiative to review the state of the field of perinatal and women’s health.

References


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Copies of this and the additional Issue Summaries listed below can be accessed by contacting: National Maternal and Child Health Clearinghouse at 703/356-1964.