

NUTRITION
Position Paper
of the
AMERICAN COLLEGE OF PHYSICIANS
27 March 1985

INTRODUCTION

A growing body of knowledge indicates that nutrition may be one of the most important factors affecting health. As witnessed by the overwhelming popularity of diet books, fad diets, and diet aids, there is a public interest and intense need for understandable information about nutrition and its effects on health and on disease and specifically about dietary ways to improve poor health, maintain good health, and prevent disease. Because of their responsibilities to individual patients and for the public health, physicians have an obligation to help answer this demand. Further research is needed to continue the progress made recently in understanding the relationships between diet and health status and in treating malnutrition and its effects. Food manufacturers and the federal government, as regulators of our food supply, also have obligations to meet the need for public education about nutrition and its effects on health and on disease.

SUMMARY OF POSITIONS

1. Improper nutrition can precipitate or exacerbate disease, and proper nutrition can promote health or prevent disease. It is incumbent on physicians to advise patients of particular diets where there exists significant medical evidence of a relationship between diet and disease, and physicians should advise all patients of guidelines for a healthful, well-balanced diet.
2. Many diseases can have a deleterious effect on the nutritional status of patients. Physicians need to be aware of the importance of taking steps early in these diseases to prevent nutritional depletion as well as providing adequate nutritional support when the patient presents with existing malnutrition.
3. It is incumbent upon physicians to keep informed of knowledge in nutrition to be able to advise on prudent diets. High priority must be given to the long term studies needed to provide a better understanding of the relationship between the long term ingestion of certain foods and diets on health.
4. Authoritative labeling of nutrition information on packaged foods is a valuable adjunct to nutrition counseling and therapy. The physician should advise patients to use these labels in diet planning.

POSITION 1

Improper nutrition can precipitate or exacerbate disease, and proper nutrition can promote health or prevent disease. It is incumbent on physicians to advise patients of particular diets where there exists significant medical evidence of a relationship between diet and disease, and physicians should advise all patients of guidelines for a healthful, well-balanced diet.

RATIONALE

Improper Nutrition The effects of improper nutrition (best defined as a diet that does not provide an adequate and well-balanced intake of essential nutrients, including calories) on health and on disease have been the subject of increasing attention in recent years. One type of improper nutrition is the use of fad diets, often accompanied by megavitamin self-treatment. Another form is undernutrition, characterized by an inadequate intake of nutrients, which can in its most severe form cause starvation and in less severe forms contribute to diseases caused by deficiencies of vitamins and other essential nutrients. Overnutrition, caused by superfluous calories often eaten instead of necessary nutrients, can result in obesity, a health problem by itself and generally recognized as a contributory factor to other health problems, including such leading causes of death as coronary disease and hypertension.

Fad diets, particularly those based on "health foods" and accompanied by megavitamin self-treatment, are common. The impact of unnecessary purchases of "health foods" and nutritional supplements on the budgets of American consumers is quite significant: over \$6,000,000,000 was spent on "health foods" (including \$2,200,000,000 on vitamin and mineral supplements) in 1981 (1). Since nearly all the nutrients they supply are available in adequate quantities in a healthful diet, the vast majority of these purchases appear unnecessary. Diets that average, on a daily basis, four portions of food from the grain group (cereals, breads, biscuits, cakes, etc.), four portions from the fruit and vegetable group, two to four portions (depending on age and sex) from the milk group (milk, cheese, yogurt, etc.), and two portions from the "meat group" (red meat, organ meats, fish, poultry, eggs, nuts, dry legumes, etc.) will provide adequate quantities of all vitamins and minerals needed for health. Exceptions to this may occur when there is not appropriate attention to food selection. In those circumstances, intakes of a number of micronutrients (e.g., iron, zinc, copper, and calcium) may not be adequate. Groups most at risk of poor iron and zinc nutriture include infants and children up to age four, adolescents and premenopausal women, and the elderly. Recent research findings seem to indicate that marginal copper nutriture may occur in individuals from all age groups and is related to food selection. Marginal intakes of calcium are more common, especially among women and the elderly. They are probably related to ingestion of inhibitors of calcium absorption or high intakes of protein. It should be noted that the health effects of marginal intakes of these essential elements are incompletely defined and are the subject of current research. For most people, then, supplementation with micronutrients appears unnecessary, unless they are unwilling or unable to make appropriate food choices, or they have diseases that interfere with intestinal absorption or cause accelerated losses. It must be emphasized that unneeded supplements may, in some instances, be harmful, particularly when taken in amounts that far exceed physiologic need.

Physicians often can cure undernutrition. Therapies such as special oral therapy with individual nutrients can overcome specific deficiencies. Counseling patients about proper nutrition and "prescribing" an adequate, well-balanced diet can successfully treat cases of undernutrition caused by adoption of unhealthy diets or diet supplements. Physicians should warn against diets based on daily intake of less than 600 calories, because such diets--regardless of protein, vitamin, and mineral content--produce loss of lean body mass (2). Anorexia nervosa and bulimia are particularly dangerous forms of undernutrition, often requiring extensive psychiatric intervention. As members of medical societies and community leaders, physicians can provide leadership to prevent undernutrition due to ignorance or poverty.

Physicians can treat many of the conditions resulting from obesity and also have an important role to prevent these conditions and one of their underlying causes: overnutrition. Prevention and treatment of obesity must start with patient education of proper nutrition, eating habits, exercise regimens, and weight ranges as well as of appropriate, safe, and healthful weight-reducing diets. Physicians should inform their obese patients that the only way to lose fat is to take in less energy than is expended. This can be accomplished by reduction in energy (food) intake (while maintaining dietary balance) plus increase in energy expenditure, i.e., exercise. There are two questions to ask about any weight-loss diet: Does it work, and is it safe? Patients need to know that nearly all fad diets work because they reduce energy intake, but that nearly all are unbalanced and, insofar as they are unbalanced, their long-term safety is questionable. Any diet providing less than 1000 calories per day for men and 800 calories per day for women "should be reserved for people who are morbidly obese (i.e., who are at least 50 pounds overweight). They should never be used without thorough prior evaluation for hidden heart, kidney, liver, or other serious disorders, and without monitoring by a competent physician..." (2).

Encouragement of the behavior modification often necessary to reduce and prevent future obesity is an important secondary aspect of medical treatment, and physicians should be familiar with community support groups that have a high success rate in weight reduction and maintenance of severely obese individuals. Patients might need education also about the role their obesity could play in promoting life-threatening diseases.

Another aspect of treatment is the management of persons treated surgically for obesity. Such care may include treatment and management of severe intestinal malabsorption, electrolyte disorders, and various deficiency syndromes. Stringent criteria for the appropriateness of such surgery have been established, and physicians consulted on this matter are encouraged to review these guidelines (3).

Proper Nutrition The recognition that improper nutrition can exacerbate or cause disease has led to examination of the thesis that proper nutrition can promote health. Believing it is possible both to improve poor health and to maintain good health through diet, the Department of Agriculture and the Department of Health and Human Services in 1980 jointly issued "Dietary Guidelines for the United States": 1) eat a variety of foods; 2) avoid too much fat, saturated fat, and cholesterol; 3) maintain ideal weight; 4) eat foods with adequate starch and fiber; 5) avoid too much sugar; 6) avoid too much sodium; and 7) if you drink alcohol, do so in moderation. These seven guidelines boil down to three key words: moderation, variety, and balance.

Disease Prevention Lately, research has focused on the role of proper nutrition as a disease prevention mechanism and particularly on the question whether there is an appropriate diet to prevent or forestall atherosclerosis and coronary disease. Attention also is being given to the question whether nutrition can help prevent or favorably alter the course or frequency of cancer.

The American Heart Association (AHA) has as some of its fundamental goals the prevention of cardiovascular disease and the reduction of atherosclerotic disease. To that end, the AHA has sponsored research for 25 years on the role of diet in the genesis of atherosclerosis. Although it recognizes that this issue is complex and that all data are not in yet, the AHA believes its responsibility is to provide guidance based on the best currently available evidence. In 1982 the AHA issued a "Diet-Heart Statement" (updating its earlier [1957, 1965, 1968, 1973, and 1978] recommendations), which recommends substantial reductions in saturated fatty acids and dietary cholesterol and an increase in carbohydrates in the American diet.

The May 1983 Annals of Internal Medicine contained a supplement that provided coverage of a conference on nutritional factors in hypertension. This sixty-page supplement discussed many of the hypothesized nutritional causes of hypertension: obesity, excessive consumption of alcohol or sodium, and deficient intake of minerals (calcium, magnesium, and potassium) and of unsaturated fat. An accompanying editorial pointed out that "epidemiologic evidence shows marked dietary differences between populations with differing prevalences of hypertension," but concluded that "these articles show that simplistic approaches are naive and that we are far from identifying a dietary factor important in the pathogenesis of hypertension...(generally it is) as complicated and interrelated as the hormonal, volume, and neural systems that control arterial pressure" (4). However, there are sufficient data on the link between obesity and hypertension and between excessive alcohol intake and hypertension to state that it is known they can contribute to the overt appearance of hypertension (4). Obesity is recognized also as a factor contributing to the continuation of hypertension.

The 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure recommends, "Moderate dietary sodium restriction to a level of 70 to 90 mEq/day (about 2 grams of sodium or 5 grams of salt) may reduce elevated blood pressure. Although only certain patients with hypertension may respond, there is no hazard from moderate sodium restriction, and it may reduce the degree of potassium wastage associated with diuretic therapy. Therefore, patients with essential hypertension should be given proper counseling for moderate sodium restriction...." (5).

There is less consensus on the links between diet and cancer. In June 1982 a study group appointed by the National Research Council (NRC) of the National Academy of Sciences issued a report on "Diet, Nutrition, and Cancer." Over two years of literature review by this 13-member committee was summarized in a 400-page document that was unable to state definitively the precise connection between most foods and cancer; the executive summary stated that "it is not yet possible to make firm scientific pronouncements about the association between diet and cancer" (6).

Nevertheless, the charge to the NRC by the National Cancer Institute when it commissioned a study on the relationship of diet and nutrition to cancer

had included a request for dietary recommendations that could be used in the formulation of public policy. The NRC Committee on Diet, Nutrition and Cancer decided that public demand for information, although such information could not be provided with clear certainty, justified the issuance of "interim guidelines," adherence to which is "likely to reduce the risk of cancer" (6). These guidelines recommend that 1) consumption of both saturated and unsaturated fats be reduced; 2) fruits, vegetables, and whole grain cereal products be included in the daily diet; 3) consumption of food preserved by salt-curing (including saltpickling) or smoking be minimized; 4) efforts continue to be made to minimize contamination of foods with carcinogens from any source; 5) further efforts be made to identify mutagens in food and to expedite testing for their carcinogenicity; and 6) if alcoholic beverages are consumed, it be done in moderation (6).

A recent synopsis of studies on diet and cancer (7) has concluded that over-nutrition is a primary risk factor associated with breast and other cancers and that physicians should recommend caloric reduction in the overweight as a possible means of reducing risk.

Physician's Role The roles of nutrition in disease prevention and health promotion are active areas of research, and as yet many hypotheses are unproven. Thus, the question has been raised of physicians being able to fulfill their responsibilities to counsel and advise patients on matters lacking scientific consensus and for which information cannot be provided with complete certainty. Another impediment to physicians' fulfilling their responsibilities is that in attempting to educate patients, physicians often are placed on the defensive, arguing against well-promoted but unproven anecdotal reports. This is especially difficult in the area of nutrition because of the vast lay literature on the subject, providing patients some information--of variable validity and reliability--on the controversies about diet and heart disease, diet and cancer, and diet and health, and of changes in dietary prescriptions.

POSITION 2

Many diseases can have a deleterious effect on the nutritional status of patients. Physicians need to be aware of the importance of taking steps early in these diseases to prevent nutritional depletion as well as providing adequate nutritional support when the patient presents with existing malnutrition.

RATIONALE

There is a need for a greater sensitivity of physicians to early evaluation of the nutritional status of their hospitalized patients on admission and at periodic intervals. Greater awareness of special nutritional needs of elderly and chronically ill patients will do much to prevent and cure malnutrition often seen in hospitals and nursing homes. The major advances that have been made in recent years in the effectiveness of therapeutic nutritional modalities enable physicians to provide effective clinical management in this area when necessary. This increased complexity of the field also makes it mandatory that physicians and their consultants be aware of the need for expert supervision of such patients being maintained by these special techniques. The great increase in the number of commercial home health

care companies that provide outpatient services in all aspects of home nutritional care enables patients to be discharged earlier and to be maintained better at home. However, it is essential that physicians consistently and effectively monitor their patients being maintained on these home nutritional and other modalities.

Of particular interest to physicians treating the elderly are recent debates about the relationship between calcium intake and development of osteoporosis. Although osteoporosis is a complex disorder, and factors unrelated to calcium nutrition undoubtedly play important roles in the development of osteoporosis, "calcium nutrition is considerably more important in the genesis of osteoporosis than has been commonly thought for the past 35 years" (8). Surveys conducted by the Public Health Service and by the Department of Agriculture during the 1970s indicate that after age 15, more than half the women in this country have calcium intakes below the recommended daily allowance (RDA) of 800 mg, and that this proportion rises with age (8). Further, although the typical male in the United States consumes as much as twice the calcium as the typical female, men over 65 years of age ingest less than the RDA (8). The problem is compounded by the fact that efficiency of calcium absorption declines with age. Women who receive adequate calcium in childhood and adolescence and during the child-bearing years are at less risk of osteoporosis, as are women who regularly exercise moderately.

POSITION 3

It is incumbent upon physicians to keep informed of knowledge in nutrition to be able to advise on prudent diets. High priority must be given to the long term studies needed to provide a better understanding of the relationship between the long term ingestion of certain foods and diets on health.

RATIONALE

The controversies regarding nutrition and its effects on health status indicate the need for ongoing, long-term research in this area. It is essential that physicians be better informed about all aspects of clinical relevance to meet adequately their responsibilities for patient care and education. There is a lack of standardization in the teaching of clinical nutrition in medical schools. Most often the only exposure of students to nutrition is with other courses, such as biochemistry, pharmacology, or pediatrics, where basic science rather than clinical or practical application is emphasized. There appears to be a slight trend toward an interdisciplinary approach designed not only to teach basic nutrition, but also to furnish an understanding of the roles of diet in health maintenance and disease prevention and treatment. However, the incorporation of adequate amounts of teaching in clinical nutrition should be made more systematic (9).

Nevertheless, it also appears that physicians have increasing opportunities to learn about nutrition, via reports in clinical journals and continuing medical education programs. Concern about the adequacy of nutrition training for physicians and postdoctoral fellows has stimulated governmental funding and assistance programs in nutrition (10). There is increasing expansion of opportunities for physician training in clinical nutrition with efforts being made to standardize the content of such training programs. In addition, the certification process for competence in clinical nutrition

continues to gain ground with increasing recognition of the American Board of Nutrition (11). The Food and Nutrition Board has appointed a Committee on Nutrition in Medical Education to examine the status of nutrition education in medical schools (12).

POSITION 4

Authoritative labeling of nutrition information on packaged foods is a valuable adjunct to nutrition counseling and therapy. The physician should advise patients to use these labels in diet planning.

RATIONALE

In counseling patients and the public about the benefits of proper nutrition and warning of the ill effects of improper nutrition, physicians can only offer guidelines as to what comprises a healthful diet. The patient must be able to translate these guidelines when planning daily menus, a task that is often very difficult because of the general lack of knowledge about the nutritional content of many foods. Physicians should work closely with clinical dietitians, who can be very useful in translating specific guidelines into proper daily menus, particularly for patients with existing nutritional problems. Patients' ability to maintain certain dietary regimens (e.g., a well-balanced, low-calorie weight loss diet or one calling for decreased saturated fats because of atherosclerosis) also can be aided by nutrition labeling of packaged foods.

The American College of Physicians believes that nutrition labeling can be a valuable adjunct to professional counsel about nutrition and advises that many packaged foods contain clear, easy-to-understand information about those nutrients or dietary components for which there exists medical evidence linking that component with health status. Examples include sodium, sugar, calories, and saturated fat.

The Food and Drug Administration (FDA) recently established a voluntary program of sodium and potassium labeling of food products (13). The rule, which becomes effective 1 July 1985, requires that the sodium and potassium content of foods, in milligrams per serving, be included as part of the nutrition labeling information whenever such labeling information is provided, whether by requirement or voluntarily. The rule defines the terms "sodium free" (less than 5 mg per serving), "very low sodium" (35 mg or less per serving), "low sodium" (140 mg or less per serving), and "reduced sodium" (processed to reduce the usual level of sodium by 75%). The rule also specifies the proper use of the terms "without added salt," "unsalted," and "no salt added."

The American College of Physicians applauds the establishment of this voluntary program and urges its members to advise patients on the use of these labels. The College also recommends that implementation be monitored carefully to ascertain whether information on additional nutrients should be included and whether the labeling should be made mandatory.

NOTES

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