Position of the Academy of Nutrition and Dietetics: The Role of Nutrition in Health Promotion and Chronic Disease Prevention

ABSTRACT

It is the position of the Academy of Nutrition and Dietetics that primary prevention is the most effective and affordable method to prevent chronic disease, and that dietary intervention positively impacts health outcomes across the life span. Registered dietitians and dietetic technicians, registered are critical members of health care teams and are essential to delivering nutrition-focused preventive services in clinical and community settings, advocating for policy and programmatic initiatives, and leading research in disease prevention and health promotion. Health-promotion and disease-prevention strategies are effective at reducing morbidity and mortality and improving quality of life, and have a significant impact on the leading causes of disease. By applying these principles within a social ecological theoretical framework, positive influence can be applied across the spectrum of engagement: at intrapersonal, interpersonal, institutional, community, and public policy levels. Through the application of efficacious and cost-effective interventions, registered dietitians and dietetic technicians, registered, can positively impact public health as well as health outcomes for the individuals that they counsel. This position paper supports the "Practice Paper of the Academy of Nutrition and Dietetics: The Role of Nutrition in Health Promotion and Chronic Disease Prevention" published on the Academy's website at: www.eatright.org/positions.
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POSITION STATEMENT

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THIS POSITION PAPER SUPPORTS the "Practice Paper of the Academy of Nutrition and Dietetics: The Role of Nutrition in Health Promotion and Chronic Disease Prevention" published July 2013 on the Academy website at: www.eatright.org/positions.[1] For several decades, the evidence demonstrating that many chronic diseases are preventable through lifestyle has been mounting and now is strong, compelling, and warrants action. As risk factors and subsequent diseases can begin early in life, health promotion and disease prevention (HPDP) efforts are imperative for delaying premature death, improving quality of life, and lessening the economic burden on the health care system. A healthy lifestyle is a cornerstone of these efforts. A systematic review of published reports has demonstrated the essential role of primary prevention in improving longevity and quality of life and in delaying health care costs.[2] Lifestyle interventions have been found to be cost effective for the prevention of diabetes[3] and cardiovascular disease (CVD).[2] Furthermore, optimal nutrition has been shown to play a central role in obesity prevention.[4,5] In addition, nutrition interventions have been shown to provide targeted effective intervention in secondary and tertiary prevention of disease.[6-11]

Registered dietitians (RDs) are uniquely equipped to provide essential HPDP interventions,[12-15] and dietetic technicians, registered (DTRs) offer value-added support to RDs and to dietary intervention teams that enhance the provision of preventive services.[16,17] Based on a systematic review of the scientific evidence completed by the Academy of Nutrition and Dietetics Evidence Analysis Library,[12] there is strong evidence to support the cost effectiveness of outpatient medical nutrition therapy (MNT) services provided by an RD in patients with obesity, diabetes, disorders of lipid metabolism, and other chronic conditions. A review of the impact of nutrition interventions and counseling provided by an RD, when part of a health care team, yielded strong evidence of the positive impact that RDs can have on weight, blood pressure, serum lipids, and glycated hemoglobin.[13] Although some reports supported the effectiveness of MNT by RDs over other health care professionals,[14,15] Evidence Analysis Library findings were inconclusive related to evidence to support effectiveness of MNT by RDs over other health care professionals due to variations in intervention length and outcome measures in studies reviewed.[18]

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CHRONIC CONDITIONS RELATED TO DIETARY CONSUMPTION

Multiple disease states and their detrimental effects on morbidity and mortality can be prevented or minimized with effective and timely dietary and lifestyle intervention, as well as with policy initiatives designed to address the underlying causes of environments that foster poor dietary and physical activity patterns.

Overweight and Obesity

The prevalence of overweight and obesity has taken on epidemic proportions for both males and females across all age and ethnic groups in the United States.[19] More than 16% of children aged 6 to 19 years are obese, with body mass index (BMI) levels ≥95th percentile for age and sex.[19] One in three adults in the United States are obese.[20]

In a systematic review and meta-analysis, Guh and colleagues found evidence to support a link between excess body weight and type 2 diabetes; cancers of the breast, endometrium, ovaries, colon, rectum, and kidney; hypertension; coronary artery disease; stroke; asthma; gallbladder disease; and osteoarthritis.[21] Primary prevention of obesity is an essential goal for improving population health, and has demonstrated effectiveness, especially among children and youths.[22] Targeted intervention on obesity through secondary and tertiary methodologies has established effectiveness.[23]

Not surprisingly, the economic burden for the medical treatment of obese adults in the United States is estimated at approximately $147 billion per year.[24] These costs arise from impaired quality of life and increased risk for CVDs (eg, hypertension, coronary heart disease, stroke, and heart failure), metabolic disease (eg, insulin resistance and type 2 diabetes), some cancers, obstructive sleep apnea, gastrointestinal disease (eg, gallbladder and liver disease), degenerative diseases (eg, arthritis), and asthma.[25] Not only is morbidity affected by excess body weight, but mortality is also impacted, as 1 in 10 modifiable deaths are attributed to overweight/obesity.[26] Therefore, early prevention efforts are warranted and can begin by addressing lifestyle variables that can predispose an individual to becoming overweight or obese. Similarly, primary prevention and policy efforts should address the current obesogenic environment that promotes positive energy balance.[27] Systematic reviews of the clinical and cost effectiveness of obesity interventions have shown that weight-management programs do promote small amounts of weight loss in overweight individuals,[4,5] with programs that focus on environmental change being the more cost effective.[4] Potential cost savings through obesity prevention have been shown to be significant. In forecasting obesity trends through 2030, Finkelstein and colleagues found that for a 1% decline from anticipated obesity trajectories, obesity-related medical costs would drop by $84.9 billion (±$9.3 billion) by 2030.[28]

Cardiovascular and Cerebrovascular Disease

CVD has been the leading cause of death in the United States for more than 100 years[25] and currently accounts for 1 in 3 deaths, and cerebrovascular disease accounts for 1 of every 18 deaths in the United States.[25] The cost associated with medical treatment and lost productivity from CVD alone was $297.7 billion in 2008, which is more than any other disease.[25]

Risk factors for CVD that can be improved by dietary intervention include dyslipidemia, glucose intolerance, hypertension, and obesity.[25] Although the positive impacts of dietary change have been clearly demonstrated, <1% of US adults have a diet considered ideal when compared with American Heart Association 2020 goals.[25]

The American Heart Association endorses the role of public policy and community-based efforts toward primary prevention of CVD.[2] With regard to intervention via primary care settings, the US Preventive Services Task Force[29] (USPSTF) notes that the benefits of behavioral counseling care for primary prevention of CVD in this venue are small. For patients with hypercholesterolemia, however, MNT has been found to be cost effective compared with usual care by physicians.[14]

Diabetes Mellitus

The prevalence of diabetes, particularly type 2 diabetes, has increased during the last decade. More than 18 million US adults (8%) were diagnosed with diabetes in 2008,[25] and diabetes prevalence is projected to reach 33% by 2050.[30] What was once considered an adult-onset condition is being seen with increasing frequency among children and youths.[31] Among adolescents aged 12 to 19 years, 12.7% have been reported to have metabolic syndrome,[32] which predisposes these individuals to risk of type 2 diabetes in young adulthood and beyond.[33] In addition, 0.05% to 5% of youths have diabetes, with higher prevalence numbers attributed to older age and obesity.[32] Rates of diabetes are considerably higher among minority populations.[25]

Based on 2005-2006 National Health and Nutrition Examination Survey data, approximately 40% of those with diabetes were undiagnosed cases.[34] One in three Americans were found to be at risk for diabetes based on impaired fasting glucose or impaired glucose tolerance.[34] Therefore, the need for screening for diabetes is evident. Obesity and family history are the main predictors of type 2 diabetes.[32] Hypertension, low high-density lipoprotein cholesterol, and high triglyceride levels are also predictive of type 2 diabetes risk.[35] Lifestyle behaviors such as dietary patterns and physical activity are linked to type 2 diabetes risk as well,[36] and lifestyle modification has been effective in preventing or delaying diabetes onset among individuals with prediabetes.[37]

Cancer

Cancer incidence rates have decreased for both men and women across all racial and ethnic groups except for American Indian/Alaska Native women, where rates were stable from 2000 to 2010.[38] Although death rates from cancer have also decreased, cancer claims more lives than heart disease among individuals younger than 85 years of age.[38] Excessive adiposity, poor dietary patterns, and physical inactivity are risk factors that contribute to incidence of several common cancers: colon, breast, uterine, esophageal, and renal cancers.[39] Obesity/overweight is implicated in 14% of cancer deaths in men and 20% of cancer deaths in women.[39] Alcohol intake at rates beyond that considered moderate has been shown to increase the risk of several cancers, including mouth, esophagus, pharynx, larynx, liver, and breast. Moderate drinking is defined as one daily drink for women, two drinks per day for men.

Dietary interventions have shown promise for primary prevention of some types of cancer.[40,41] Physical activity also plays an important role in cancer prevention.[39] Dietary modifications to reduce fat intake demonstrate effectiveness at reducing the risk of cancer of the breast[41] and ovary.[40] Regular moderate to vigorous physical ac-