

Position Paper

The Role of Medical Nutrition Therapy and Registered Dietitian Nutritionists
in the Prevention and Treatment of Prediabetes and Type 2 Diabetes

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Position Statement

“It is the position of the Academy of Nutrition and Dietetics that for adults with prediabetes or type 2 diabetes, medical nutrition therapy (MNT) provided by registered dietitian nutritionists (RDNs) is effective in improving medical outcomes, quality of life, and is cost effective. MNT provided by RDNs is also successful and essential to preventing progression of prediabetes and obesity to type 2 diabetes. It is essential that MNT provided by RDNs be integrated into health care systems and public health programs, and be adequately reimbursed” (Briggs et al., 2018, p. 343).

Summary

Due to the rising prevalence of obesity, more and more Americans are being diagnosed with metabolic conditions that can lead to the onset of chronic diseases. Obesity is a major risk factor for prediabetes, which is a precursor to type 2 diabetes. While type 2 diabetes may fundamentally be a result of the body’s inability to properly use or to produce adequate amounts of insulin, the underlying cause of this insulin resistance is attributed to one’s diet and lifestyle. Left untreated, the high blood glucose levels experienced with prediabetes can exacerbate into type 2 diabetes. “Approximately four out of five U.S. adults with type 2 diabetes are overweight or obese” (Brown, 2020, p. 76). Type 2 diabetes is an emotional, physical, and financial burden to those individuals afflicted by the disease. It is also an economic burden to the United States healthcare system. According to the American Diabetic Association, the “total costs of diagnosed diabetes have risen to \$327 billion in 2017 from \$245 billion in 2012...a figure [that] represents a 26% increase over a five-year period” (American Diabetes Association, 2022).

One effective way to contain these escalating costs is to empower patients with the tools and education they need to prevent or delay the onset of type 2 diabetes. A Registered Dietitian Nutritionist (RDN) can provide individualized guidance through Medical Nutrition Therapy (MNT) to help patients improve metabolic conditions in as little as three months, producing outcomes better than through medication (Briggs et al., 2018). An RDN's intervention can help patients experience weight loss and implement the behavior and lifestyle modifications necessary to help them add productive years to their life. For those diagnosed with type 2 diabetes, RDNs can help clients monitor, maintain, and control the progression of the disease to minimize the onset of severe complications, reduce medicine dosage increases, lower HbA1c levels, and prevent weight gain due to glucose regulating medication – all of which can improve the patient's emotional well-being and help them lead a higher quality of life (Briggs et al., 2018). MNT performed by RDNs has been proven to be effective and cost efficient, especially when intervention is applied early in the process. Care provided by RDNs reduces hospitalizations and the number of physician's visits.

Barriers to treatment exist such as inaccessibility by marginalized populations and by geography, health care insurance coverage, and reimbursement by Medicare. A solution to some of these problems can be resolved by incorporating RDNs directly into the primary care setting. The proven benefits of MNT have garnered support from organizations such as the American Diabetes Association and The American Heart Association (Briggs et al., 2018); RDNs are an integral part of the care team to treat and prevent obesity, prediabetes, and type 2 diabetes.

Discussion

The Academy of Nutrition and Dietetics stands by their position due to the fact that the rate of obesity, prediabetes, and diabetes has increased dramatically over the last 30 years. Currently in the United States, the prevalence of obesity is 35%, 33.9% for prediabetes, and approximately one in three adults over the age of 65 has diabetes (Briggs et al., 2018). Obesity is a key risk factor for prediabetes and type 2 diabetes. There is strong evidence that medical nutrition therapy results in statistically significant and clinically meaningful weight loss in overweight and obese individuals (Briggs et al., 2018). A study conducted by the Diabetes Prevention Program found that intensive lifestyle intervention resulting in weight loss decreases the incidence of type 2 diabetes for individuals that are overweight, obese, or have an impaired glucose tolerance by 58% in three years (Evert et al., 2019).

MNT provided over a three-month period resulted in a decrease in fasting blood glucose (2-9mg/dL), body weight (2.6-7.1kg), and waist circumference (3.8-5.9 cm) in individuals with prediabetes (Briggs et al., 2018). Evidence from Nutrition Practice Guidelines supports the role of MNT in management of type 2 diabetes, decreasing HbA1c levels by 0.3-2.0% at three months (Briggs et al., 2018). HbA1c levels were maintained or improved with ongoing MNT compared to those without, whose HbA1c levels remained unchanged or increased by 0.2% (Briggs et al., 2018). MNT was also correlated with improvements in emotional distress and anthropometric outcomes, increasing quality of life.

Academy Vision

“A world where all people thrive through the transformative power of food and nutrition”
(Academy of Nutrition and Dietetics [Academy], 2022).

Academy Mission

“Accelerate improvements in global health and well-being through food and nutrition”

(Academy, 2022).

Academy Principles and Values

“The Academy of Nutrition and Dietetics and its members:

- Amplify the contribution and value of diverse nutrition and dietetics practitioners to the public
- Position registered dietitian nutritionists as the experts in food and nutrition
- Expand workforce demand and capacity
- Incorporate research, professional development, technology and practice to foster innovation and discovery
- Collaborate with key stakeholders to solve the greatest food and nutrition challenges, now and in the future
- Focus on making a system-wide impact across the food, well-being and health care sectors
- Have a global impact in eliminating all forms of malnutrition” (Academy, 2022).

Support For The Academy’s Vision, Mission, Principles and Values

The position of the Academy is Medical Nutrition Therapy (MNT) provided by a Registered Dietitian Nutritionist (RDN) can improve medical outcomes and quality of life in individuals who are obese and/or diagnosed with prediabetes or type 2 diabetes. This position embodies the vision of the Academy of Nutrition and Dietetics to move towards “a world where

all people thrive through the transformative power of food and nutrition” (Academy, 2022). Using the Nutrition Care Process, RDNs are able to assess, diagnose, monitor, and evaluate the outcomes of treatment. Assessments include fasting blood glucose, waist circumference, and body weight in those individuals either at risk or considered to be at risk of developing either prediabetes or diabetes. Once a diagnosis is made MNT is tailored to the individual’s needs, helping them to understand caloric intake, portion control, carbohydrates, different diet options - all of which are possible therapies. If recommendations are followed and progress is continuously monitored and evaluated, the individual has the opportunity to thrive and even regain a normal fasting blood glucose or HbA1c.

Aside from the toll on an individual's health, prediabetes and type 2 diabetes are costly - both in the literal, monetary sense, and because of the toll the illness can take on an individual's life. MNT intervention was shown to be most cost effective in quality-adjusted life years as well as medical costs and reimbursements to insurance and health-care providers. Improving individual health outcomes and in turn lessening the burden on one’s community and the healthcare system as a whole, the mission of the Academy to “accelerate improvements in global health and well-being through food and nutrition” (Academy, 2022) is supported.

This position also needs to be applicable to the principles and values of the Academy. The position that MNT can improve outcomes and quality of life in individuals with prediabetes and type 2 diabetes will amplify the contribution and value of diverse nutrition and dietetics practitioners to the public. MNT allows a dietitian to work one-on-one with a client providing diverse recommendations that the individual will be able to tailor to their needs. Individual MNT also positions the registered dietitian nutritionists as the experts in food and nutrition. As research on the benefits of MNT in the treatment of obesity and comorbidities such as

prediabetes and type 2 diabetes increases, insurance companies do allow a person with these conditions a set number of meetings with a dietician in a calendar year. This recognizes the dietician as the expert who will be able to provide care and recommendations beyond the scope of a primary care or specialized physician. These appointments with a dietician will expand workforce demand and capacity as research continues and providers, insurance companies, and individuals recognize the role and importance of MNT in reducing prevalence and complications of prediabetes and the progression to type 2 diabetes. As dieticians continue to work closely with clients to manage diabetes, they may perform or incorporate research into their practice. This allows for professional development, expanding the use of technology and practice to foster innovation and discovery. One of the most important outcomes of the studies discussed in the position paper are recognition of the importance of MNT by the medical community. This leads to collaboration with key stakeholders (doctors, nurses, insurance companies) to solve the greatest food and nutrition challenges, now and in the future. Finally, tying together the mission, vision, principles, and values of the Academy, this position of recognizing the importance of MNT in the prevention and treatment of prediabetes and the progression to type 2 diabetes will continue bringing a focus on making a system-wide impact across the food, well-being and health care sectors that will have a global impact in eliminating all forms of malnutrition.

Reflection

Reflecting on the Academy's position, MNT is proven to be cost-effective in modifying lifestyle behaviors that lead to obesity and the potential onset of prediabetes and type 2 diabetes. One of the most effective ways to realize these benefits is to integrate RDNs and MNT into the primary care setting. This environment can break down barriers to treatment by allowing a

higher volume and a wider representation of patients earlier access to nutritional education. RDNs can devise individualized plans to facilitate meaningful weight loss and regulate blood glucose to prevent or delay the onset of prediabetes, type 2 diabetes, as well as other chronic conditions. Because of this early intervention, patients may be able to minimize the frequency of office visits and hospitalizations, alleviating some of the financial burden associated with these diseases. Patients may even be able to reduce or eliminate the need for medication, adding years to their life and drastically improving their quality of life. Implementing RDNs in the primary care or public health care setting will allow a greater potential for reimbursement. This arrangement may encourage the number of patients referred to an RDN, whose services may then be directly billed or incorporated into a bundled payment system (Briggs et al., 2018). The incorporation of MNT in the primary care system is an evidence-based, practical solution which would benefit patients and health care providers.

References

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