Nutritional Considerations for Transgender Patients

Mitchell Anderson, MS, AT, ATC* ;Emma Nye, DAT, LAT, ATC†
*University of Toledo, Toledo, OH; †Grand View University, Des Moines, IA

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Correspondence
Dr. Emma Nye, Select Medical, Grand View University, 3164 SW Arlan Lane, Ankeny IA, 50023.
E-mail: enye@grandview.edu
Twitter: @EANye15

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COMMENTARY

Athletic trainers (ATs) serve as a key resource regarding nutritional information for active patient populations. Both in traditional and emerging settings, the ATs role often includes educating patients on proper nutrition, both for enhancing sport performance and maintaining healthy lifestyles. According to the Commission on Accreditation of Athletic Training Education (CAATE) 2020 Standards, ATs must practice in collaboration with other health care and wellness professionals. One vital partnership among health care providers (HCPs) is that of ATs and nutrition professionals. Personalized nutrition, particularly in athletic populations, has been used by dieticians (RD) and nutritionists (unregulated nutrition specialist) in an effort to enhance performance and improve health outcomes.[1] It is imperative for ATs to possess a level of knowledge to appropriately answer patient questions, provide guidance and recommendations, and collaborate with other professionals in this area. Recently, the Joint Position Statement by the American College of Sports Medicine, the Academy of Nutrition and Dietetics, and the Dietitians of Canada, highlighted the importance of developing nutritional interventions that take into consideration the uniqueness of each individual, to improve health outcomes.[2] The recognition and knowledge about unique nutritional considerations for patients is crucial in sports medicine. More importantly, when treating patient in the LGBTQ+ community, ATs and HCPs need to be aware of the contributing factors that can influence nutrient absorption. Athletic trainers have a unique opportunity to be a resource for nutritional-related concerns for this population, and specifically for those who identify as transgender. LGBTQ+ patients face disproportionately high levels of food insecurity, obesity, and disordered eating while also facing barriers to accessing affirming and knowledgeable healthcare providers.[3] The purpose of this commentary is to provide awareness and inform ATs and other HCPs about the unique nutritional considerations for patients who identify as transgender. Further, the commentary will serve as a call to action for ATs and other HCPs to research and develop transgender specific nutritional recommendations as a mechanism to reduce health care disparities for this population.

Transgender individuals are people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth.[3] Patients who identify as transgender represent a growing and underserved population in the U.S., and the percentages of the general population that identify as transgender continue to increase.[4] As such, HCPs must become aware of the specific needs of this population. An important piece of transgender health care is the role of nutritional interventions in relation to hormone therapy, mental health and wellness, and chronic illness.

Historically, nutritional principles have been primarily focused on cisgender patients, those whose gender identity aligns with their assigned

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sex at birth.[3] As athletic training and other healthcare professions work towards providing patient-centered and culturally competent care, a foundational level of understanding in transgender health care is vital. As identities within athletic populations become more diverse, ATs must focus efforts on providing holistic healthcare, which may include developing nutritional guidelines

HORMONE THERAPY

In an effort to improve transgender individuals' access to quality nutrition care, it is important to first understand conditions for which this population is most at risk. Oftentimes, those who identify as transgender will undergo hormone therapy, and are at risk for adverse effects.[4] Testosterone therapy for transgender males (Assigned Female at Birth) may lead to weight gain, decreased lean body mass, decrease in lipid mass, increased LDL cholesterol, decreased HDL cholesterol, and increase hemoglobin and hematocrit.[4] Additionally, long-term effects of testosterone may significantly reduce or eliminate the menstrual cycle, impacting iron needs for that patient. For transgender females (Assigned Male at Birth), estrogen therapy may present with weight gain, an increase in HDL cholesterol, a decrease in LDL cholesterol, and increased bone mineral density.[4,5] For transgender adolescents, hormone therapy may impact bone health, where supplementation with calcium and Vitamin D may be warrented.[4] In order to reduce the impact of the negative side effects, ATs may intervene and collaborate with nutritionists and dieticians to implement nutritional interventions that best align with the patients' needs.

In patients taking testosterone therapy, we often see an increase in LDL cholesterol, a cessation of menstruation, weight gain, and increased blood viscosity[13], which may require advising patients to limit saturated fats and address other fatty meals with alternatives to decrease LDLs.[6] Due to the increase in hematocrit and hemoglobin, fluid retention may occur.[7] Monitoring the intake and elimination of liquids may be important when advising appropriate hydration before, during, and after activity. Weight gain, another side effect of testosterone therapy, may be managed by understanding the demands of a patient's activity and advising appropriate weight gain, loss, or maintenance strategies. Transgender patients may also have a decrease or cessation in menstruation, warranting a conversation regarding bone health imperative. Athletic trainers should encourage the increase in calcium and vitamin D with dairy-rich foods, adequate sun light, and if necessary, supplements among this population. For transgender patients prescribed estrogen therapy, weight gain, increases in HDL and decreases in LDL, increases in bone mineral density, as well as cardiovascular side effects are common concerns. In addition to monitoring and encouraging physical activity for patients on estrogen therapy, nutrition interventions can also be implemented into their specific treatment plan to reduce potential cardiovascular pathologies.

A key issue surrounding nutrition assessment of transgender people is that nearly all equations used by dieticians and nutritionists are gendered.[8] Calculating the appropriate amount of nutrients a transgender person needs is multifaceted, as oftentimes transgender people are taking hormones and have modified nutritional needs due to physiological changes, causing inaccuracies in estimating energy expenditure rates. The premise of nutritional needs being calculated solely on gender has also been explored by Rahman and Linsenmeyer.[8] In their study, the authors note differences in gender-specific diet and nutrition related considerations have only compared cisgender heterosexual males vs cisgender heterosexual females.[8] Furthermore, a study by Smalley, et al[8], discussed significant variations in health risk behaviors within each subcategory of sexual orientation, which highlights the need for ATs and other HCPs to further explore the dietary needs of sexual minorities

rather than through group membership.[8] Historically, patients who are viewed in a minority group, or a category that is differentiated and often discriminated against, have negative health outcomes and face additional barriers to health care as compared to the majority, further suggesting the need to develop nutritional guidelines that are not limited by the confines of binary gender.

MENTAL HEALTH AND WELLNESS

Additional considerations for transgender patients should also focus on mental health and wellness, and the link between diet and more positive mental health outcomes.[2] The etiology of eating disorders in the transgender population is not clearly delineated, as relationships among sexuality, gender identity, body image, and eating disorders are complex.[8] According to the National Transgender Discrimination Survey, those who are transgender have an increased risk of eating disorders and an increased risk of abusing diet pills because of social norms.[9] This increased prevalence affects transgender females disproportionately compared to transgender males, and is related to feeling the need to meet ideal body standards, emotional trauma from the process of accepting gender identity, and stress from social stigma and discrimination.[10]

Research exists to suggest weight gain is a side effect in the transgender population in those individuals undergoing hormone therapy.[8] Anti-androgen and estrogen therapies cause an increase in body fat, and a decrease in muscle mass.[8] Diemer et al[10] demonstrated a higher rate of self-reported eating disorders, vomiting, use of diet pills, and use of laxatives among transgender college students compared with their cisgender counterparts. In addition, transgender individuals have high rates of binge eating, fasting, and vomiting for weight loss.[10] Differences in health outcomes exist between transgender patients and their cisgender counterparts; however disparities between transgender women and transgender men propose unique considerations for individualized healthcare.[11] These disparities, coupled with the knowledge gap regarding best practices surrounding caloric needs of transitioning individuals, lends to additional barriers for transgender individuals receiving individualized nutritional planning.[10]

CHRONIC ILLNESS

Patients who identify as transgender may be at increased risk of chronic illness, like HIV or Cardiovascular disease, which can impact their specific nutritional if their transition process includes the use or hormone therapies.[12] Human Immunodeficiency Virus (HIV) and cardiovascular disease are two of the conditions most researched within the transgender population; however, other chronic illnesses impact the patients' body, including type 2 diabetes, cancer, obesity, depression, asthma, chronic obstructive pulmonary disease, and chronic kidney disease.[13] The literature suggests that transgender people may be at higher risk for cardiovascular disease due to exposure of oral ethinyl estradiol, a common hormone prescribed to transgender females.[13]

A substantial amount of literature links dietary factors to increased risk of chronic disease.[2,7,9-10] Although this correlation is well documented, there is a gap in knowledge regarding the nutritional needs and interventions to decrease the risk of chronic disease, specifically in the transgender population. Healthcare providers should understand how these illnesses have the potential to affect patients who identify as transgender, and more research should be completed to evaluate what nutritional interventions can aid in the healing process of such diseases.

A need exists for understanding physiological changes within the bodies of patients who identify as transgender. Understanding the impact of hormone therapy, mental health and wellness, and chronic disease are three main influencers to consider when educating and developing

individualized nutritional care for patients who identify as transgender.

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