Journal of American College Health

ISSN: 0744-8481 (Print) 1940-3208 (Online) Journal homepage: https://www.tandfonline.com/loi/vach20

Diet and nutritional considerations for a FtM transgender male: A case report

Whitney R. Linsenmeyer & Rabia Rahman

To cite this article: Whitney R. Linsenmeyer & Rabia Rahman (2018) Diet and nutritional considerations for a FtM transgender male: A case report, Journal of American College Health, 66:7, 533-536, DOI: 10.1080/07448481.2018.1431917

To link to this article: https://doi.org/10.1080/07448481.2018.1431917

Accepted author version posted online: 06 Feb 2018.
Published online: 22 Mar 2018.

JOURNAL OF AMERICAN COLLEGE HEALTH
2018, VOL. 66, NO. 7, 533–536
https://doi.org/10.1080/07448481.2018.1431917

Taylor & Francis
Taylor & Francis Group

CASE REPORT

Diet and nutritional considerations for a FtM transgender male: A case report

Whitney R. Linsenmeyer, PhD, RD, LD and Rabia Rahman, MS, RD, LD

Department of Nutrition and Dietetics, Saint Louis University, St Louis, Missouri, USA

ARTICLE HISTORY Received 20 November 2017; Revised 2 March 2018; Accepted 16 January 2018

Introduction

Among adults in the United States, approximately 0.6% of the population identifies as transgender.[1] On college campuses, this figure is estimated at 0.2%.[2] Existing research indicates substantial health disparities among transgender adults, including those on college campuses.[3,4]

While university health centers may provide a variety of services, primary care and preventative health services for the general transgender population has focused on the specific issues of HIV, cholesterol screenings, tobacco use, pelvic health, and insurance coverage.[5] Though nutrition is a key aspect of preventative health, discussion on the diet and nutritional needs of the transgender population is virtually nonexistent.

Nascent evidence suggests considerable diet-related clinical and psychosocial concerns of transgender individuals. These include: changes in weight status and body composition, altered lipid profiles and blood pressure levels, altered hemoglobin and hematocrit levels, disordered eating patterns and eating disorders, and poor diet quality.[6–16] Among college students, Diemer and colleagues found that self-reported eating disorders and use of compensatory behaviors such as vomiting or laxatives were higher among transgender students compared to cisgender students.[9]

However, nutrition care guidelines, as well as the difference between the nutritional needs of female to male (FtM) and male to female (MtF) individuals, have yet to be established. Thus, the purpose of this case report was to demonstrate the impact of nutrition interventions on biochemical and psychosocial outcomes for a transgender patient seeking nutrition counseling at a university health center, and to initiate discussion among health professionals and researchers regarding other potential diet and nutritional considerations.

Methods

This was a single case, case report of a FtM transgender male with the pseudonym Carl. Information for the case report was derived from his electronic health record dating from 2011 to 2017, including notes from his registered dietitian, primary care physician, ob-gyn, and psychiatrist. This report is organized according to the Nutrition Care Process, which details nutrition assessment, diagnosis, interventions, and monitoring and evaluation of a patient, and utilizes the International Dietetics and Nutrition Terminology.[17,18] The Institutional Review Board of the research team's home university determined the study was exempt from review. However, informal written consent was obtained from the participant via email.

Case report

Nutrition assessment

Client history (CH-1.1, CH-2.1, CH-2.2)[18]

Carl was a 27-year-old graduate student at a private, Midwestern university who identified as a FtM transgender Latino male. He sought the services of a registered dietitian at the university health center for the purposes of weight loss and general healthy eating counseling.

At the time of data collection, Carl had been undergoing masculinizing hormone therapy for over three years, undergone a mastectomy, and was planning to undergo a hysterectomy in the future. He had been passing as male for approximately two years.

Anthropometric measurements (AD-1.1)[18]

Carl had experienced considerable weight fluctuations since his teenage years; his highest adult weight was 278 lbs (BMI 43.5, obese class III) and his lowest adult weight was 165 lbs (BMI 25.8, overweight). Carl's weight at the

CONTACT Whitney R. Linsenmeyer Whitney.linsenmeyer@health.slu.edu Department of Nutrition and Dietetics, Saint Louis University, 3437 Caroline Street, Room 3076, St. Louis, MO 63103, USA.

time of data collection was 209 lbs (BMI 32.7, obese class I). Carl's self-identified goal weight was 180 lbs.

Food/nutrition related history (FH-1.1, FH-1.3, FH-1.6, FH-3.2, FH-4.2, FH-4.3, FH-6.3)[18]

Carl relied heavily on the popular app, MyFitnessPal, to track his physical activity and energy intake. His energy intake ranged from 1,600 kcals to 2,000 kcals. Carl tended to eat the same foods every day and was highly focused on lean protein sources; his diet was 30% protein, which was still within an acceptable macronutrient distribution range. At times Carl would "save up" 500 kcals until the end of the day, then "binge" on empty kcal foods such as candies and cookies. He would then feel guilty the next day and delay his first meal as long as possible. Carl's physical activity goal was to engage in 60 minutes of mixed aerobic and anaerobic activity five days per week. This was an appropriate goal for weight loss.

Prior to transitioning, Carl viewed diet and exercise as a way to punish himself for being overweight. He reported "destructive" weight loss methods in his past such as severe kcal restriction (500 kcals/day) and excessive exercise (two hours aerobic activity in extreme heat). However, in the past year he had successfully lost 50 lbs using recommended techniques such as moderate exercise and choosing nutrient-rich foods. His view towards diet and exercise shifted towards health promotion and ownership of his self-care. However, the punishment-mindset sometimes reemerged if he "slipped up" or was not able to exercise regularly.

Carl's estimated energy needs to promote weight loss were 1,900–2,375 kcals/day (based on 20–25 kcals/kg body weight). Estimated protein needs were 76–208 g/day (based on the recommended dietary allowance of 0.8 g/day protein and the upper acceptance macronutrient distribution range for protein of 35% total kcals).

Biochemical data, medical tests and procedures (BD-1.5, BD-1.7, BD-1.13)[18]

Nutrition-relevant biochemical changes occurred during a one-year period in which Carl was receiving nutrition counseling by a registered dietitian. These differences, along with expected changes associated with masculinizing hormone therapy are outlined in Table 1. Additionally, Carl's blood pressure was checked at each visit to the university health center throughout the year and was elevated at all but one of the visits.

Nutrition diagnosis

Disordered eating pattern (NB-1.5)[18] related to preoccupation with thinness as evidenced by restriction of food throughout the day followed by overconsumption of empty kcals at night.

Overweight/obesity (NC-3.3)[18] related to disordered eating patterns and overconsumption of kcals as evidenced by BMI of 32.7 (Obese class I).

Table 1. Changes in nutrition-relevant lab values of a FtM transgender male from baseline to one-year postnutrition counseling compared to expected changes of hormone replacement therapy (HRT).

Biochemical marker	Baseline	After counseling	Expected impact of HRT
LDL-C	156 mg/dL (H)[a]	114 mg/dL (WNL)[b]	Increase
HDL-C	49 mg/dL (WNL)	46 mg/dL (WNL)	Decrease
Triglycerides	122 mg/dL (WNL)	72 mg/dL (WNL)	Variable
Total Cholesterol	229 mg/dL (H)	174 mg/dL (WNL)	Variable
Hemoglobin A1 C	5.4 (WNL)	5.6 (WNL)	Variable
Vitamin D	16 ng/mL	—	—

[a]H indicates "High".
[b]WNL indicates "Within normal limits".

Nutrition interventions

Carl met with the registered dietitian (RD) eight times over the course of the year for 45–60 minutes per session. The nutrition interventions were as follows:

Food and/or Nutrient Delivery (ND-1.2)[18]

Balanced energy intake. Given Carl's proclivity to restrict kcal intake throughout the day, an important goal was to distribute his food intake throughout the day by consuming three balanced meals. Carl used MyFitnessPal consistently and was therefore able to track his kcal intake at each meal and use this tool to ensure he was consuming adequate energy at each meal.

Emphasizing energy-dense foods and enjoying treats in moderation. Carl tended to adopt an "all or nothing" approach to empty kcal foods such as cookies and candies. He would either try to omit them completely from his diet, or would "binge" on large quantities, typically in the evenings. He made progress in this area by setting a goal of limiting his intake to "one sweet treat per day."

Healthy mindset toward food and exercise. At his very first counseling session with the registered dietitian, Carl reported his past tendency to view food and exercise as punishment for being overweight. The notions of food as fuel, nourishment, and pleasure were consistent themes that emerged at most sessions. Carl made significant progress in this area and began to view food and exercise as a way to honor his new body.

Nutrition education *(E-2.1, E-2.2, E-2.3, E-2.5)*[18]. Carl's disordered eating pattern and preoccupation with his weight necessitated nutrition education which focused on the importance of a consistent meal pattern to optimize weight loss and prevent overconsumption of nighttime calories. Education was also provided on a low-sodium and heart healthy dietary pattern.

Nutrition counseling *(C-1.1, C-1.2, C-1.4, C-2.1, C-2.2)*[18]. The transtheoretical model, cognitive-behavior theory (CBT) and motivational interviewing formed the underlying theoretical framework for the counseling interventions. At first visit, Carl had already made significant lifestyle modifications and was seeking further guidance on weight loss and healthy eating, placing him in the "action" stage of change. Weekly measurable goals were set with Carl to meet his overall aim to achieve a healthy weight status and dietary pattern. CBT was used to elucidate why Carl was restricting kcals and consequently to reframe his mindset to promote consistent intake throughout the day. Self-monitoring through MyFitnessPal was encouraged to ensure adequate kcal intake.

Nutrition monitoring and evaluation. Carl was seen by the registered dietitian eight times through the course of one year and was also followed by his medical team. His weight status, dietary intake and eating patterns were evaluated at each visit (AD-1.1, FH-1.3, FH-3.2).[18] The registered dietitian continued to provide nutrition counseling and education at each encounter.

Discussion

Clinical assessment

Weight gain and an increase in visceral fat is a known effect of testosterone therapy in FtM individuals.[8,10,16] Carl made moderate progress in his weight loss goal (8 lbs over 12 months). However, he did make significant advances in improving the quality of his diet, distributing his kcal intake throughout the day, and establishing a healthy mindset towards food and exercise. The latter were most relevant towards Carl's overall physical and mental health. Going forward, Carl will likely now be more successful in achieving and sustaining weight loss given his balanced approach to diet and exercise.

Additionally, altered lipid levels are a potential side effect of testosterone therapy in FtM transgender individuals, including decreased HDL-cholesterol, increased LDL-cholesterol, and increased triglycerides.[13,16] Though his total cholesterol and LDL-cholesterol were elevated at the first test, they were within the desirable range at the second test several months later. This was likely due to successful lifestyle modifications including dietary changes, weight loss, and regular physical activity. Fasting or non-fasting when blood was drawn may also have explained this change.

Carl's blood pressure was consistently elevated throughout the year. This is not a well-established side effect of testosterone therapy,[16] and was therefore likely related to other factors such as being overweight, certain dietary patterns, or a genetic predisposition to hypertension.[19] Further nutrition counseling could focus on achieving a healthy blood pressure level via diet and lifestyle changes such as a D.A.S.H. diet, regular physical activity, and moderate alcohol intake.[20]

Unique aspects of a FtM transgender case

Existing literature supports elevated rates disordered eating, eating disorders, and body image disturbances among sexual minorities, particularly transgender individuals.[9,11,12,21] In this case, Carl's description of his mindset towards food and exercise pretransition was consistent with aspects of disordered eating and eating disorders.

However, Carl's mindset towards weight management shifted dramatically during transition when he began to utilize both diet and exercise to promote his health and well-being. This shift was logical given that he began to feel more comfortable in his new body, a finding supported by existing evidence of reduced body satisfaction following gender-confirming medical interventions.[22,23]

Carl's motivation to change was fueled both by a new appreciation and for his physical body, as well as excitement for the potential impact of diet and exercise interventions. Therefore, the transition period for transgender individuals may be ideal for nutrition counseling and dietary interventions given the individual's focus on the body and motivation to change.[23] Diet and exercise may be used to support physical goals, such as weight loss or increased muscle tone, as well as psychosocial goals, such as improved mental health and self-care.

Future research

The need for appropriate training of health professionals in caring for transgender individuals is well-established.[9,25–27] Currently, nutrition care guidelines do not exist for registered dietitians to utilize when working with the transgender population. Appropriate guidelines regarding nutrition assessment, diagnosis, and interventions must be established based on the extant literature for both FtM and MtF transgender individuals.

Conclusion

This case of a FtM transgender male validates existing concerns for the transgender population regarding clinical and psychosocial aspects of nutrition. Given the large proportion of adults that choose to undergo gender transition between the ages of 18–24, coupled with the fact that the majority (87%) of transgender adults have completed at least some college education, the college campus can be an ideal setting to promote overall health for transgender students.[3,4] The progress made by the patient in this case supports that nutrition interventions should be an integral part of treatment for transgender patients on college campuses, and points to the need for nutrition care guidelines specific to the transgender population.

Conflict of interest disclosure

The authors have no conflicts of interest to report.

References

1. Flores AR, Herman JL, Gates GJ, Brown TN. How many adults identify as transgender in the United States? *The Williams Institute*. 2016. Retrieved from https://williamsinstitute.law.ucla.edu/wp-content/uploads/How-Many-Adults-Identify-as-Transgender-in-the-United-States.pdf. Accessed June 15, 2017.
2. American College Health Association. *American College Health Association-National College Health Assessment II: Reference Group Executive Summary Spring 2011*. Hanover, MD: American College Health Association; 2011.
3. VanKim NA, Erickson DJ, Eisenberg ME, Lust K, Simon Rosser BR, Laska MN. Weight-related disparities for transgender college students. *Health Behav Policy Rev*. 2014;1(2):161–171.
4. Grant J, Mottet L, Tanis J, et al. *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*. Washington, DC: National Center for Transgender Equality and National Gay and Lesbian Task Force; 2011.
5. Edmiston EK, Donald CA, Sattler AR, et al. Opportunities and gaps in primary care preventative health services for transgender patients: A systematic review. *Transgender Health*. 2016;1(1):216–230.
6. Beaty L, Trees N, Mehler P. Recurrent persistent hypophosphatemia in a male-to-female transgender patient with anorexia nervosa: Case report. *Int J Eat Disord*. 2017;50(5):606–608.
7. Cella S, Iannaccone M, Cotrufo P. Influence of gender role orientation (masculinity versus femininity) on body satisfaction and eating attitudes in homosexuals, heterosexuals and transsexuals. *Eat Weight Disord*. 2013;18(2):115–124.
8. Deutsch MB, Bhakri V, Kubicek K. Effects of cross-sex hormone treatment on transgender women and men. *Obstet Gynecol*. 2015;125(3):605–610.
9. Diemer EW, Grant JD, Munn-Chernoff MA et al. Gender identity, sexual orientation, and eating-related pathology in a national sample of college students. *J Adolesc Health*. 2015;57(2):144–149.
10. Fernandez JD, Tannock LR. Metabolic effects of hormone therapy in transgender patients. *Endocr Pract*. 2016;22(4):383–388.
11. Hepp U, Milos G. Gender identity disorder and eating disorders. *Int J Eat Disord*. 2002;32(4):473–478.
12. Matthews-Ewald MR, Zullig KJ, Ward RM. Sexual orientation and disordered eating behaviors among self-identified male and female college students. *Eat Behav*. 2014;15:441–444.
13. Pelusi C, Costantino A, Martelli V, et al. Effects of three different testosterone formulations in female-to-male transsexual persons. *J Sex Med*. 2014;11(12):3002–3011.
14. Smalley KB, Warren JC, Barefoot KN. Differences in health risk behaviors across understudied LGBT subgroups. *Health Psychol*. 2016;35(2)103–114.
15. Vocks S, Stahn C, Loesner K, Legenbauer T. Eating and body image disturbances in male-to-female and female-to-male transsexuals. *Arch Sex Behav*. 2009;38:364–377.
16. Coleman E, Bockting W, Botzer M, et al. Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People, 7th Version. *Int J Traqnsgend*. 2012;13(4):165–232.
17. Nutrition care process. *J Am Diet Assoc*. 2008;108(7):1113–1117.
18. International dietetics and nutrition terminology. *J Am Diet Assoc*. 2008;108(8):1287–1293.
19. Center for disease control and prevention. High blood pressure risk factors. 2014. Available at /www.cdc.gov/bloodpressure/risk_factors.htm. Accessed June 15, 2017.
20. *Academy of Nutrition and Dietetics: Hypertension: Executive Summary of Recommendations*. Chicago, IL: Academy of Nutrition and Dietetics; 2015.
21. Austin SB, Nelson LA, Birkett MA, et al. Eating disorder symptoms and obesity at the intersections of gender, ethnicity, and sexual orientation in U.S. high school students. *Am J Public Health*. 2013;103(2):16–22.
22. Surgenor LJ, Fear JL. Eating disorder in a transgendered patient: A case report. *Int J Eat Disord*. 1998;24(4):449–452.
23. Testa RJ, Rider GN, Haug NA, Balsam KF. Gender confirming medical interventions and eating disorder symptoms among transgender individuals. *Health Psychol*. 2017;36(10):927–936.
24. Khoosal D, Langham C, Palmer B, et al. Features of eating disorder among male-to-female transsexuals. *Sexual Relation Therapy*. 2009;24(2):217–229.
25. Cunningham E. What strategies do registered dietitian nutritionists use to assess a patient's/client's weight loss readiness? *J Acad Nutr Diet*. 2016;116(120):2036.
26. Bradford J, Reisner SL, Honnold JA, Kavier J. Experiences of transgender-related discrimination and implications for health: Results from the Virginia Transgender Health Initiative Study. *Am J Public Health*. 2013;103(10):1820–1829.
27. Mail PD, Safford L. LGBT disease prevention and health promotion: Wellness for gay, lesbian, bisexual, and transgender individuals and communities. *Clin Res Regul Affairs*. 2003;20(2):183–204.