



Early Effects of Initiating Gender Affirming Hormone Therapy on BMI on Transgender Adolescents and Young Adults

Futcher R², Grooms K², Sequeira G^{1,2}, El Nokali N², Levine M², Miller E^{1,2}, Austin SB³, Rofey D². ¹Children's Hospital of Pittsburgh ²University of Pittsburgh ³Boston Children's Hospital



Conclusions Cont.

Background

- Previous studies have shown a relationship between body weight increase and masculinizing and feminizing hormone therapy in transgender adults
- Not much is known about the effects gender affirming hormone therapy may have on BMI in adolescents and young adults (AYA)

Objective

To describe the impact of initiating gender affirming hormones on BMI in transgender AYA

Methods

- Participants consisted of transgender patients aged 13 to 26 receiving gender affirming hormone therapy.
- Masculinizing hormone therapy includes transdermal, subcutaneous or intramuscular testosterone
- Feminizing hormone therapy includes oral, transdermal or intramuscular estradiol ± spironolactone
- Retrospective observational data was collected via electronic health records (correlational study)
- Paired t-tests were used to compare BMI %tile and BMI z-score at baseline and 6 month follow up
- BMI z-score was calculated using CDC growth charts given wide age range

Table 1: Baseline characteristics		
	Feminizing hormones	Masculinizing hormones
n	30	58
Age (years)	19.8	19.2
BMI %tile	53.4 ± 32.3	75.6 ± 23.8
BMI z-score	0.2 ± 1.1	1.0 ± 0.9

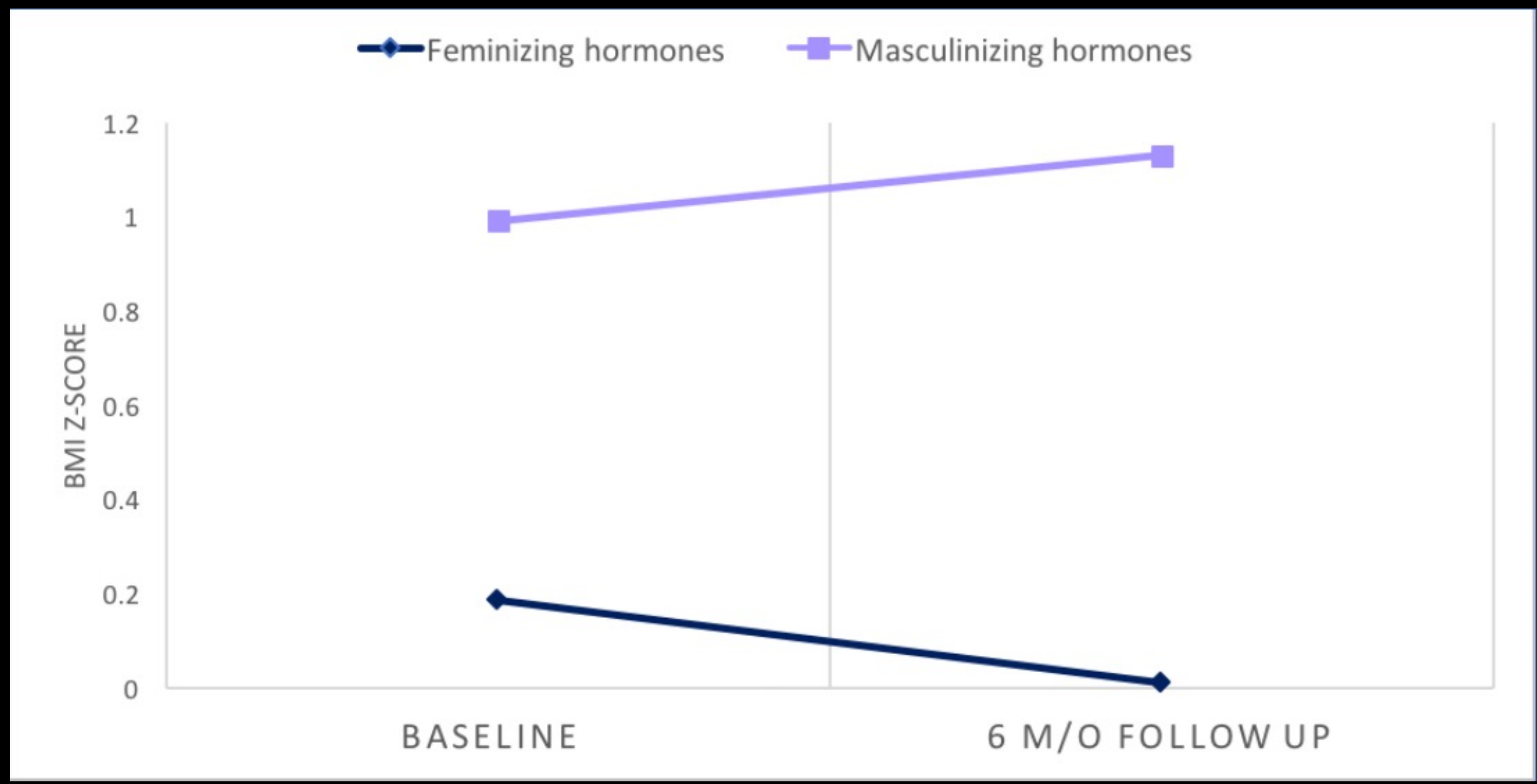


Figure 1: Change in BMI z-score after 6 months of therapy

Table 2: Comparison of baseline and follow up BMI data				
	Feminizing hormones		Masculinizing hormones	
Time b/w weights	6.8 ± 1.8 months		6.7 ± 2.2 months	
BMI %tile	49.3 ± 34.3	t(29)=0.24	79.6 ± 20.9*	t(57)=0.004
BMI z-score	0.0 ± 1.1	t(29)=0.09	1.1 ± 0.8*	t(57)=0.002

Conclusions

- Adolescents receiving masculinizing hormones showed a significant increases in BMI %tile and BMI z-score
- Close monitoring of adiposity and bone density may be important in the clinical care of youth receiving masculinizing hormones

- AYA receiving masculinizing hormone therapy had a significant increase in BMI %tile and BMI z-score at 6 month follow up (p<0.05) (small p value means significant)
- No differences were seen in BMI %tile or BMI z-score in AYA receiving feminizing hormone therapy at 6 month follow up (p>0.05)

Limitations

- The dosage and route of Gender Affirming Hormones varied and was not held constant. (According to patient preference and doctor recommendation)
- There were differences in baseline BMI due to wide age range
- Age was not held constant
- Measures of adiposity (obesity) and bone density were not directly taken, only from BMI

Future Directions

- Ongoing repeated measures analysis with additional follow up weights
- Further investigation into long term effects on adiposity, lean tissue, and bone density
- Understanding eating behaviors and physical movement may be important in determining the basis for BMI change
- A more careful description of age, hormone dose, and rate of weight gain will be important in the development of standards for gender affirming care in the future.