



Medical treatment - Tables by Outcome

Summary of anthropometry outcomes

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
1	(Boogers. et al., 2022) N'lands	Bone age – Chronological age (BA-CA), Mean ± SD Growth velocity (GV cm per year), mean (95% CI) Height SDS, mean (95% CI)	AMAB only BA – CA = -0.2 ± 0.9 years	GV = 5.3 ± 2.2 cm/year	GV = 3.5 ± 1.3 cm/year	$BA - CA = 1.6 \pm 0.8$ BA - CA = mean -0.5 years/year of PS 95% CI ± -0.8 to -0.2)	Significant decrease in Bone age vs Chronological age.
2	(Boogers et al., 2023) N'lands	Height SDS, mean ± SD BMI SDS, median (IQR)	AMAB only Height SDS = 0.04 ± 1.00 BMI SDS = 0.63 ± -0.41 to 1.39			Height SDS = -0.37/year, 95%Cl -0.47 to -0.27 Height SDS = -0.42 ± 1.1 BMI-SDS = 0.43 (-0.41 to 1.51)	No sig change in BMI in AMAB adolescents. Decrease in Height SDS. Significance not analysed.
3	(Carmichael et al., 2021) UK	Height Z-score, Mean (95%CI) Weight Z-score, Mean (95%CI) BMI Z-score, Mean (95%CI) BMD Z-score, Mean (95%CI)	AMAB & AFAB combined Height z-score 0.4 (0.1 0.7 Weight z-score 0.8 (0.4, 1.3) BMI z-score 0.7 (0.2 1.1) BMD z-score -0.5 (-0.8, - 0.1) All n=44 BMD z-score -0.4 (-0.8, - 0.1) Baseline n = 43 BMD z-score -0.7 (-1.2, - 0.1)	Height z-score 0.2 (-0.1, 0.4) Weight z score 0.8 (0.3, 1.3) BMI z-score 0.7 (0.2, 1.2) BMD z-score -1.0 (-1.3 0.6) FU 12 months n = 43	Height z-score 0.0 (-0.4, 0.4) Weight z-score 0.6 (-0.1, 1.3) BMI z-score 0.6 (-0.1, 1.3)	Height z-score 0.0 (-0.5, 0.5) Weight z-score 1.0 (0.1, 1.9) BMI z-score 1.1 (0.3, 1.9) Follow up at 36 months	Significant decrease in Height Z-score Increase in BMI Z-score at 36 months Significant decrease of BMD-z-scores at 12 and 24 months. No further change at 36 months

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			Baseline n=24 BMD z-score -0.2 (-1.0,		BMD z-score -1.3 (-1.9, - 0.7) ELL 24 months n = 24	BMD z-score -1.5 (-2.2, -0.8) FU 36 months, n = 12	
			Baseline n=12		10 24 montais, 11 – 24		
4	(Ciancia et al., 2022) Belgium	Height Z-score Mean ± SD	AMAB Height Z-score = -0.46 ± 1.11 AFAB Height Z-score = -0.32 ± 0.34			AMAB Height gain = $12.67 \text{ cm} \pm 5.73$ Height Z score = -0.90 ± 1.02 , p < 0.001) AFAB Height gain = $10.17 \text{ cm} \pm 2.96$ Height Z-score = -0.43 ± 0.56	AMAB: Good correlation between duration of treatment and height gain AFAB: Weak correlation between duration of PS and height gain For AMAB & AFAB Total height based on gender assigned at birth is the best predictor for final height
5	(Ghelani et al., 2020) UK	Height SDS, change SDS score from reference Weight SDS, mean ± SDS BMI SDSs, mean ± SDS Lean Mass ± SDS Results expressed as change in SDS scores from reference population at baseline and 12 months.	AMAB, (change in SDS score) Δ Height SDS = -0.88 Δ Weight SDS = -0.05 Δ BMI SDS = 0.63 Δ Lean Mass SDS = -0.68 AFAB Δ Height SDS = -0.09 Δ Weight SDS = 0.88 Δ BMI SDS = 1.04 Δ Lean Mass SDS = 0.15	AMAB Δ Height = -1.05, p<0.05 Δ Weight = -0.303, p=ns Δ BMI = 0.56, p=ns Δ Lean Mass= -1.11, p=0.002 AFAB Δ Height = -0.05, p=ns, Δ Weight = -0.14, p=ns Δ BMI = 1.14, p= ns Δ Lean Mass = -0.08, p=ns			AMAB: a significant decrease in height and lean mass SDSs over 12-months GnRHa treatment period AFAB: no apparent effect on body composition from the parameters measured for transboys.
6	(Joseph et al., 2019) UK	Height, mean (SD) Weight, mean (SD) BMI, mean (SD)	AMAB, n = 10 Height = 160.3 (5.4) Weight = 66.4 (14.6) BMI = 25.8 (5.3) AFAB, n = 21 Height = 159.0 (35.8) Weight = 49.8 (17.1) BMI = 19.4 (5.3)	AMAB, n= 10 Height = 163.4 (5.7) Weight = 76.1 (19.4) BMI = 28.2 (7.1) AFAB, n = 21 Height = 160.3 (36.7) Weight = 66.4 (14.6) BMI = 20.7 (7.9)	AMAB, n=10 Height = 165.1 (5.7) Weight = 82.9 (30.5) BMI = 30.5 (8.6) AFAB, n = 21 Height = 160.3 (37.5) Weight = 66.4 (14.6) BMI = 20.9 (6.6)	-	An increase in height and weight with transgirls (AMAB) having a larger increase in BMI, and transboys (AFAB) a greater increase in height.
8	(Klink. et al., 2015)	Height, mean ± SDS BMI, mean ± SDS	AMAB, n=15 Height SDS = 0.14 ± 1.3			АМАВ	No significant change in BMI in either AMAB or

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
	N'Lands		BMI SDS = 0.17 ± 0.90 AFAB, n = 19 Height SDS = -0.06 BMI SDS = 0.3 ± 1.0			Height SDS = -0.97 ± 1.3 , p<0.001 BMI SDS = 0.07 ± 1.11 , p = ns AFAB Height SDS = -0.1 ± 1.3 , p = ns BMI SDS = 0.5 ± 1.2 , p = ns	AFAB during GnRHa treatment. A significant decrease in height SDS in AMAB compared to cisgender reference group
9	(Navabi et al., 2021) Canada	BMI z-score (mean (SD) Lean body mass (LBM) z- score Total Body Fat, (TBF) z-score % z-scores calculated from sex assigned at birth	AMAB n = 51 BMI z-score = 0.62 (1.67) LBM z-score = -1.19 (1.45) TBF z-score = 1.42 (1.02) AFAB n = 119 BMI z-score = 0.89 (1.25) LBM z-score = -1.03 (1.22) TBF z-score = 1.68 (0.96)			AMAB n = 36 BMI z-score = 0.45 (1.69), p=0.475 LBM z-score = -1.99 (1.58), p<0.001 TBF z-score = 2.46 (0.51), p<0.001 AFAB n = 80 BMI z-score = 0.99 (1.30), p = 0.083 LBM z-score = -1.01 (1.28), p< 0.89 TBF z-score = 1.78 (0.90), p=0.053	No evidence of change in BMI z-score for AMAB or AFAB during GnRHa treatment. Significant decrease in LBM and increase in TBF for AMAB. Non-significant trend for increase in TBF for AFAB.
10	(Nokoff et al., 2021a) USA	BMI percentile GD compared to cis-gender controls				AMAB GD (n=8) vs Cisgender (n=17) BMI percentile 44 ± 39 vs 45 ± 38, p=ns AFAB GD (n=9) vs cisgender (n=14) BMI percentile 62 ± 32 vs 67 ± 29, p = ns	No significant difference in BMI between AMAB or AFAB GD adolescents compared to cisgender controls
11	(Perl et al., 2021)Israel	BMI-SDS	AFAB (n=15) BMI SDS = 0.2 ± 0.9			AFAB (n = 15) BMI SDS = 0.4± 0.9, p=0.198	No significant change in BMI after GnRHa treatment in AFAB adolescents.
12	(Schagen et al., 2016)	Height (Ht) SDS, (mean (SD)) BMI SDS	AMAB Ht SD S =0.20 (1.0), n=36	AMAB			In AMAB adolescents, significant decrease in

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
		Total body fat percent (Fat%) Lean body mass percent (LBM%)	BMI SDS = 0.82 (1.1), n=36 Fat % = 22.4 (6.9), n=26 LBM% = 74.6 (6.4), n=26 AFAB Ht SD S = -0.10 (1.1), n41 BMI SDS = 0.68 (1.2), n=41 Fat % = 25.0 (6.9), n=26 LBM% = 71.5 (6.7)	Ht SDS, -0.04 (1.0), p < 0.001 BMI SDS 0.89 (1.2), p=ns Fat% = 26.8 (6.6), p < 0.001 LBM% = 70.9 (7.3), p=0.001 AFAB Ht SDS, -0.25 (1.1), p < 0.001 BMI SDS 0.84 (1.2), p=0.01 Fat% = 29.5 (7.3), p < 0.001 LBM% = 67.7 (6.7), p < 0.001			height SDS and Fat% and significant decrease in LBM%. No significant change in BMI SDS. In AFAB significant decrease in height SDS and LBM% and sign increase in BMI SDS and Fat%.
13	(Schagen et al., 2020) N'lands	Height Weight BMI					Descriptive data provided but no comparisons of centiles before and after GnRHa provided
14	(Schulmeiste r et al., 2022) USA	BMI z score Height velocity (HV) centimetres per year (cm/yr) median (IQR) Tanner stage 2,3,4 (T2, T3,T4)	AMAB, n = 26 BMI z score =0.46 (0.89) AFAB, n = 29 BMI z-score = 0.38 (0.94)	AMAB BMI Z score = 0.66 (0.97) HV T2 = 5.6 (4.7 - 5.7), n = 21 HV T3 = 4.2 (2.3 - 6.4), n = 3 HV T4 = 1.6 (1.5 - 2.9), n= 2 AFAB BMI-z-score = 0.63 (0.95) HV T2 = 5.0 (4.2 - 5.4), n = 13 HV T3 = 4.4 (4.0 - 5.5), n = 13 HV T4 = 2.9 (1.5 - 3.5), n = 3			Tanner stage had a significant impact on HV. HV was also negatively associated with age at GnRHa start even when Tanner stage at start was included as a covariate, demonstrating that some but not all of the effect of age was mediated by Tanner stage (R2 = 0.3, p = 0.02).

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
16	(Stoffers et al., 2019) N'lands	Height (Ht) SDS BMI SDS Using both male (transgender) and female (sex assigned at birth) reference range	AFAB n = 62 Ht SDS male = -1.3 ± 1.2 Ht SDS female = -0.1 ± 1.0 BMI SDS male = 0.68 ± 1.0 BMI SDS female = 0.47 ± 1.0			AFAB n = 62 Ht SDS male = -1.7 ± 09 Ht SDS female = -0.2 ± 1.0 BMI SDS male = 0.58 ± 1.1 BMI SDS female = 0.40 ± 1.0	No significant change in height SDS or BMI SDS using reference ranges for either identified gender or sex assigned at birth.
19	(Vlot et al., 2017) N'Lands	Height Weight					Descriptive data provided but no comparisons of centiles before and after GnRHa provided
20	(Willemsen et al., 2023) N'lands	Height (Ht) SDS Pubertal (P) and post- pubertal (PP) comparison of growth using female reference range	AFAB n = 61 P-Ht SDS = 0.1 ± 1.5 PP -Ht SDS -0.1 ± 1.0			AFAB n = 61 P-Ht SDS = -0.2 ± 1.0 PP -Ht SDS -0.2 ± 1.1	Transgender boys with BA >12 years at start PS declined more in height SDS during PS compared with transgender boys with BA \leq 12 years (difference between groups -0.6; 95% CI, -0.7 to -0.4).

AFAB = Assigned female at birth, AMAB = Assigned male at birth, BMI = Body mass index, BA = bone age, CA = chronological age, GD = Gender dysphoria, GV = growth velocity, Ht = height, IQR = interquartile range, LBM = lean body mass, N'lands = Netherlands, SDS = standard deviation, TBF = Total body fat, UK = United Kingdom, USA = United States of America, Wt = weight

Appendix 5 Summary of lumbar spine bone mineralisation outcomes

No	Study	Analysis		BMD Z-scor	es Lumbar Spine	
			Baseline	12 months	24 months	At GAHT
2	(Boogers et al., 2023) N 'lands	BMD-HAZ-scores Regular dose oestradiol (2 mg) High dose oestradiol (6 mg) Ethinyl oestradiol				Data not provided for changes in BMD during PS alone. However, BMD HAZ-score decreased for all three groups.
3	(Carmichael et al., 2021) UK	AMAB and AFAB combined BMD Z-score (Mean (95%CI))	BMD z-score -0.5 (-0.8, -0.1) All n=44 BMD z-score -0.4 (-0.8, -0.1) Baseline n = 43 BMD z-score -0.7 (-1.2, -0.1) Baseline n=24 BMD z-score -0.2 (-1.0, 0.6) Baseline n=24	BMD z-score -1.0 (-1.30.6) FU 12 months n = 43	BMD z-score -1.3 (-1.9, -0.7) FU 24 months, n = 24	BMD z-score -1.5 (-2.2, -0.8) FU 36 months, n = 12
6	(Joseph et al., 2019) UK	BMAD Z-scores Mean (SD) P1 baseline to 12 months P2 baseline to 24 months P3 12 to 24 months	AMAB 3 scans, n=10, 0.13 (0.972) AMAB 2 scans, n=31: 0.859 (0.154) AFAB 3 scans, n=21: -0.715 (1.406) AFAB 2 scans, n=39: -0.186 (1.230)	AMAB 3 scans, n=10: -6.50 (1.182) p1 < 0.001 AMAB 2 scans, n=31: -0.228 (1.027) P1 <0.000 AFAB 3 scans, n=21: -1.610 (1.462), p1 < 0.000 AMAB 2 scans, n=39; -0.541 (1.396 P1 < 0.006	AMAB 3 scans, n=10 -0.890 (1.075), p2 < 0.000. p3 = 0.203 AFAB 3 scans, n=21: -2.000 (1.384), p2 <0.000. P3 = 0.035	-

No	Study	Analysis		BMD Z-sc	ores Lumbar Spine	
			Baseline	12 months	24 months	At GAHT
8	(Klink. et al., 2015) N'Lands	BMAD z-scores Mean (SD) P1 baseline to start of GAHT	AMAB, n=11, -0.44 (1.10) AFAB, n=18, 0.28 (0,90)	-	-	AMAB, n=11, -0.90 (0.80) p1 = NS AFAB, n=18, -0.50 (0.81) p1 = 0.004
9	(Navabi et al., 2021) Canada	BMAD Z-scores Baseline; mean (SD) Prior to GAHT, mean (95% CI) p1 AMAB to AFAB p2 Baseline to GAHT	AMAB, n = 51: -0.22 (1.41) AFAB, n=119: -0.10 (1.00) P1 < 0.001	-	-	AMAB: n = 36, BMAD Z-score - 0.76 (1.48) change -0.37 (-0.61 to - 0.14) p2= NS AFAB: n = 80, BMD Z-score -0.76 (0.93) change -0.59, P2 <0.001
13	(Schagen et al., 2020) N'lands	BMAD Z scores mean (SD) p1 baseline to 24 months early puberty p2 baseline to 24 months late puberty	AMAB early puberty, -0.33 (0.33) AMAB late puberty, -0.65 (0.20) AFAB early puberty, -0.15 (0.29) AFAB late puberty, 0.33 (0.14)	-	AMAB Early puberty, -1.10 (0.34) p1 <0.05 AMAB late puberty, -0.15 (0.29) p2 <0.05 AFAB early puberty, -0.86 (0.30) p1 <0.05 AFAB late puberty, -0.56 (0.17) p2 <0.05	-
16	(Stoffers et al., 2019) N'lands	BMD Z-score Mean (SD)	AFAB: n = 62, 0.02 (1.00)			AFAB, -0.81 (1.02), P <0.001
19	(Vlot et al., 2017) N'Lands	BMAD Z-score Mean (range) p1 comparison baseline young AMAB & AFAB p2 comparison baseline old AMAB & AFAB p3 comparison young AMAB baseline to GAHT p4 comparison old AMAB baseline to GAHT	AMAB young n = 15, -0.2 (-1.82 to 1.18) AMAB old, n= 5, -1.18 (-1.78 to 1.09) p1 = 0.003 p2 = NS AFAB young n= 11, -0.05 (-0.78 to 2.94) AFAB old n=23, 0.27 (-1.6 to 1.8)			AMAB young, -1.52 (-2.36 to 0.42) AMAB old, -1.15 (-2.21 to 0.08) p3 = NS p4 NS AFAB young, -0.84 (-2.2 to 0.87) AFAB old, 0.29 (-2.28 to 0.90) p5 < 0.01 p6 < 0.01

No	Study	Analysis		BMD Z-scores Lumbar Spine						
			Baseline	12 months	24 months	At GAHT				
		p5 comparison young AFAB baseline to GAHT								
		p6 comparison old AFAB baseline to GAHT								

AMAB = assigned male at birth (transgirls), AFAB = assigned female at birth (transboys), At GAHT = at the commencement of gender affirming hormone treatment. Baseline = prior to initiation of GAHT, BMAD z-score = Bone Mineral Apparent Density z-score. Cl = confidence intervals. N'lands = Netherlands, NS = not significant, UK = United Kingdom

- 2. Insufficient data provided to assess BMD-z-scores
- 3. AMAB and AFAB analysed as a single group. Height adjusted BMD z scores. Statistical analyses not performed for Z-scores. 44 cases assessed at baseline, 43 assessed at 12 months, 24 assessed at 24 months and n=12 assessed at 36 months (data not shown. BMD z-score data at 36 months (n= 12) (-1.5 (-2.2 to -0.8); baseline -0.2 (-1.0 to 0.6) 36 months. A decrease in HA BMD-Z score was identified from baseline to 12 months 24 months but no further decrease from 24 to 36 months.
- 6. Mean BMD Z-scores decreased from baseline to 12 months for AMAB and AFAB adolescents. In the subgroup with a DEXA scan at 24 months there was a significant decrease in BMAD z-scores in AFAD from 12 to 24 months, but not AMAD adolescents.
- 8. Mean BMAD z-scores did not significantly decrease for AMAB adolescents from commencement of GnRHa therapy to commencement of GAHT, but significant decrease for AFAB adolescents.
- 9. Mean BMAD z-score significantly less in AMAB adolescents than AFAB but did not significantly change in AMAB but did significantly change in AFAB.
- 13. Early puberty defined as Tanner 2/3, late puberty defined as Tanner 4/5. At baseline, mean BMD z-score higher in AFAB than AMAB adolescents. The BMAD z-score of all groups significantly decreased by 24 months of treatment with GnRHa
- 16. Mean BMD z-scores decreased from baseline to treatment with GAHT in transboys (AFAB adolescents)
- 19. Young and old based on bone age. Young AFAB bone age < 14 years, young AMAB < 15 years. At baseline, the young transgirls (AMAB) had a lower mean BMAD Z-score than the young transmen (p=0.003). There was no difference at baseline between young and old transmen, young and old transwomen, or between old transmen and old transwomen. Suppression of puberty resulted in a decrease of BMAD of the old transmen.

Appendix 6 Summary of cardiometabolic outcomes

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
2	(Boogers et al., 2023) N'lands	Height SDS Mean ± SD BMI SDS, median (IQR)	AMAB only Height SDS = 0.04 ± 1.00 BMI SDS = 0.63 ± -0.41 to 1.39			Height SDS = -0.42 ± 1.1 BMISDS = 0.43 (-0.41 to 1.51)	No sig change in BMI in AMAB adolescents. Decrease in Height SDS. Significance not analysed.
3	(Carmichael et al., 2021) UK	Height Z-score (Mean (95%Cl)) Weight Z-score (Mean (95%Cl)) BMI Z-score (Mean (95%Cl)) BMD Z-score (Mean (95%Cl))	AMAB & AFAB combined Height z-score 0.4 (0.1 0.7 Weight z-score 0.8 (0.4, 1.3) BMI z-score 0.7 (0.2 1.1) BMD z-score -0.5 (-0.8, - 0.1) All n=44 BMD z-score -0.4 (-0.8, - 0.1) Baseline n = 43 BMD z-score -0.7 (-1.2, - 0.1) Baseline n=24 BMD z-score -0.2 (-1.0, 0.6) Baseline n=24	Height z-score 0.2 (-0.1, 0.4) Weight z score 0.8 (0.3, 1.3) BMI z-score 0.7 (0.2, 1.2) BMD z-score -1.0 (-1.3 0.6) FU 12 months n = 43	Height z-score 0.0 (-0.4, 0.4) Weight z-score 0.6 (-0.1, 1.3) BMI z-score 0.6 (-0.1, 1.3) BMD z-score -1.3 (-1.9, - 0.7) FU 24 months, n = 24	Height z-score0.0 (-0.5, 0.5) Weight z-score 1.0 (0.1, 1.9) BMI z-score 1.1 (0.3, 1.9) Follow up at 36 months BMD z-score -1.5 (-2.2, -0.8) FU 36 months, n = 12	Significant decrease in Height Z-score Increase in BMI Z-score at 36 months Significant decrease of BMD-z-scores at 12 and 24 months. No further change at 36 months
5	(Ghelani et al., 2020) UK	Height ± SDS Weight ± SDS BMI ± SDS Lean Mass ± SDS	AMAB, Height = -0.88 Weight = -0.05 BMI = 0.63 Lean Mass = -0.68 AFAB Height = -0.09 Weight = 0.88 BMI = 1.04 Lean Mass = 0.15	AMAB Height = -1.05, p<0.05 Weight = -0.303, p=ns BMI = 0.56, p=ns Lean Mass = -1.11, p=0.002 AFAB Height = -0.05, p=ns, Weight = -0.14, p=ns BMI = 1.14, p= ns Lean Mass = -0.08, p=ns			AMAB: a significant decrease in height and lean mass SDSs over 12-months GnRHa treatment period AFAB: no apparent effect on body composition from the parameters measured for transboys.

1	No Study	· /	Analysis	Baseline	12 months	24 months	At GAHT	Comment
	5 (Josepł al., 2019 UK	oh et F 19) V E	Height ± SD Weight ± SD BMI ± SD	AMAB, n = 10 Height = 160.3 (5.4) Weight = 66.4 (14.6) BMI = 25.8 (5.3) AFAB, n = 21 Height = 150.0 (25.8)	AMAB, n = 10 Height = 163.4 (5.7) Weight = 76.1 (19.4) BMI = 28.2 (7.1) AFAB, n = 21 Height = 160.2 (26.7)	AMAB, n=10 Height = 165.1 (5.7) Weight = 82.9 (30.5) BMI = 30.5 (8.6) AFAB, n = 21 Height = 160.2 (27.5)	-	An increase in height and weight with transgirls (AMAB) having a larger increase in BMI, and transboys (AFAB) a greater increase in baight
				Weight = 49.8 (17.1) BMI = 19.4 (5.3)	Weight = $66.4 (14.6)$ BMI = $20.7 (7.9)$	Weight = $66.4 (14.6)$ BMI = $20.9 (6.6)$		increase in height.
4	3 (Klink. 2015) N'Lands	. et al., F	Height SDS BMI SDS Height velocity	AMAB, n=15 Height SDS = 0.14 ± 1.3 BMI SDS = 0.17 ± 0.90 AFAB Height SDS = -0.06 HV was also negatively associated with age at GnRHa start even when Tanner stage at start was included as a covariate, demonstrating that some but not all of the effect of age was mediated by Tanner stage (R2 ¼ .3, p ¼ .02). 1.2 BMI SDS = 0.3 ± 1.0			AMAB Height SDS = -0.97 ± 1.3, p<0.001 BMI SDS =0.07 ± 1.11, p = ns AFAB Height SDS = -0.1 ± 1.3, p = ns BMI SDS = 0.5 ± 1.2, p = ns	No significant change in BMI in either AMAB or AFAB during GnRHa treatment. A significant decrease in height SDS in AMAB compared to cisgender reference group
9	9 (Navab al., 202 Canada	bi et E 21) L la S Z Z S	BMI z-score (mean (SD) Lean body mass(LBM) z- score Total Body Fat,(TBF) z- score % z-scores calculated from sex assigned at birth	AMAB n = 51 BMI z-score = 0.62 (1.67) LBM z-score = -1.19 (1.45) TBF z-score = 1.42 (1.02) AFAB n = 119 BMI z-score = 0.89 (1.25)			AMAB n = 36 BMI z-score = 0.45 (1.69), p=0.475 LBM z-score = -1.99 (1.58), p<0.001 TBF z-score = 2.46 (0.51), p<0.001 AFAB n = 80	No evidence of change in BMI z-score for AMAB or AFAB during GnRHa treatment. Significant decrease in LBM and increase in TBF for AMAB. Non-significant trend for increase in TBF for AFAB.

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
			LBM z-score = -1.03 (1.22) TBF z-score =1.68 (0.96)			BMI z-score = 0.99 (1.30), p = 0.083 LBM z-score = -1.01 (1.28), p< 0.89 TBF z-score = 1.78 (0.90), p=0.053	
10	(Nokoff et al., 2021a) USA	BMI percentile GD compared to cis- gender controls				AMAB GD (n=8) vs Cisgender (n=17) BMI percentile 44 ± 39 vs 45 ± 38 , p=ns AFAB GD (n=9) vs cisgender (n=14) BMI percentile 62 ± 32 vs 67 ± 29 , p = ns	No significant difference in BMI between AMAB or AFAB GD adolescents compared to cisgender controls
11	(Perl et al., 2021) Israel	BMI SDS	AFAB (n=15) BMI SDS = 0.2 ± 0.9			AFAB (n = 15) BMI SDS = 0.4± 0.9, p=0.198	No significant change in BMI after GnRHa treatment in AFAB adolescents.
12	(Schagen et al., 2016) N'lands	Height (Ht) SDS (mean (SD)) BMI SDS Fat percent (Fat%) Lean body mass percent (LBM%)	AMAB Ht SD S =0.20 (1.0), n=36 BMI SDS = 0.82 (1.1), n=36 Fat % = 22.4 (6.9), n=26 LBM% = 74.6 (6.4), n=26 AFAB Ht SD S = -0.10 (1.1), n41 BMI SDS = 0.68 (1.2), n=41 Fat % = 25.0 (6.9), n=26 LBM% = 71.5 (6.7)	AMAB Ht SDS,-0.04 (1.0) ,p<.001 BMI SDS 0.89 (1.2), p=ns Fat% = 26.8 (6.6), p<0.001 LBM% = 70.9 (7.3), p=0.001 AFAB Ht SDS,-0.25 (1.1) ,p<.001 BMI SDS 0.84 (1.2), p=0.01 Fat% = 29.5 (7.3), p<0.001 LBM% = 67.7 (6.7), p<0.001			In AMAB adolescents, significant decrease in height SDS and Fat% and significant decrease in LBM%. No significant change in BMI SDS. In AFAB significant decrease in height SDS and LBM% and sign increase in BMI SDS and Fat%.

No	Study	Analysis	Baseline	12 months	24 months	At GAHT	Comment
13	(Schagen et al., 2020) N'lands	Height Weight BMI					Descriptive data provided but no comparisons of centiles before and after GnRHa provided
14	(Schulmeiste r et al., 2022) USA	BMI z score Height velocity (HV) centimetres per year (cm/yr) median (IQR) Tanner stage 2,3,4 (T2, T3,T4)	AMAB, n = 26 BMI z score =0.46 (0.89) AFAB, n = 29 BMI z-score = 0.38 (0.94)	AMAB BMI Z score = 0.66 (0.97) HV T2 = 5.6 (4.7 - 5.7), n = 21 HV T3 = 4.2 (2.3 - 6.4), n = 3 HV T4 = 1.6 (1.5 - 2.9), n= 2 AFAB BMI-z-score = 0.63 (0.95) HV T2 = 5.0 (4.2 - 5.4), n = 13 HV T3 = 4.4 (4.0 - 5.5), n = 13 HV T4 = 2.9 (1.5 - 3.5), n = 3			Tanner stage had a significant impact on HV. HV was also negatively associated with age at GnRHa start even when Tanner stage at start was included as a covariate, demonstrating that some but not all of the effect of age was mediated by Tanner stage (R2 = 0.3, p = 0.02).
16	(Stoffers et al., 2019) N'lands	Height (Ht) SDS BMI SDS Using both male (transgender) and female (sex assigned at birth) reference range	AFAB n = 62 Ht SDS male = -1.3 ± 1.2 Ht SDS female = -0.1 ± 1.0 BMI SDS male = 0.68 ± 1.0 BMI SDS female = 0.47 ± 1.0			AFAB n = 62 Ht SDS male = -1.7 ± 09 Ht SDS female = -0.2 ± 1.0 BMI SDS male = 0.58 ± 1.1 BMI SDS female = 0.40 ± 1.0	No significant change in height SDS or BMI SDS using reference ranges for either identified gender or sex assigned at birth.
19	(Vlot et al., 2017) N'Lands	Height Weight					Descriptive data provided but no comparisons of centiles before and after GnRHa provided

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