

The effects of cross-sex hormone therapy on body weight and body composition in transgender individuals

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Background

Cross-sex hormone therapy (CSHT) is part of the treatment of individuals with gender dysphoria and affects body composition and thereby potentially cardiovascular risk. Little is known about the exact effects on total body weight and body composition in the first year of treatment.

Aim

To examine the effects of cross-sex hormones on total body weight, body fat percentage, lean mass and anthropometrics in the first year of CSHT.

Methods

Population: 77 male-to-females (MtFs) and 73 female-to-males (FtMs) who completed one year of CSHT, as part of treatment within the framework of the European Network for the Investigation of Gender Incongruence (ENIGI).

Medication: MtFs used cyproteronacetate (50mg/day in combination with estradiol valerate (4mg/day) or an estradiol patch (100yg/24h). FtMs used either testosterone undecanoate (1000mg/12 weeks) or testosterone esters (250mg/2 weeks) intramuscularly or testosterone gel (50mg/day).

Measurements: Prior to treatment and after 12 months body weight and anthropometrics were measured. Measurements of total body fat percentage and lean mass were obtained by DEXA (Hologic QDR 4500, Hologic).

Results

	MtF (N=77)	FtM (N=73)
Age (years)	30.6 (23.2-38.8)	23.7 (20.7-29.2)
Length (m)	1.79 ± 0.07	1.67 ± 0.07
BMI (kg/m ²) 0 months	24.1 ± 4.8	24.8 ± 5.0
BMI (kg/m ²) 12 months	24.8 ± 4.6	26.0 ± 4.9
Mean difference BMI	0.7 (0.25;1.2)	1.1 (0.7;1.5)
Waist (cm) 0 months	85.2 ± 14.0	79.9 ± 13.8
Waist (cm) 12 months	84.4 ± 13.6	80.3 ± 11.7
Mean difference waist (cm)	-0.8 (-2.5;1.0)	0.4 (-1.8;2.7)
Hip (cm) (0 months)	97.4 ± 10.3	98.7 ± 11.2
Hip (cm) (12 months)	100.0 ± 9.1	98.5 ± 9.8
Mean difference hip (cm)	2.6 (1.1;4.0)	-0.2 (-2.3;2.0)

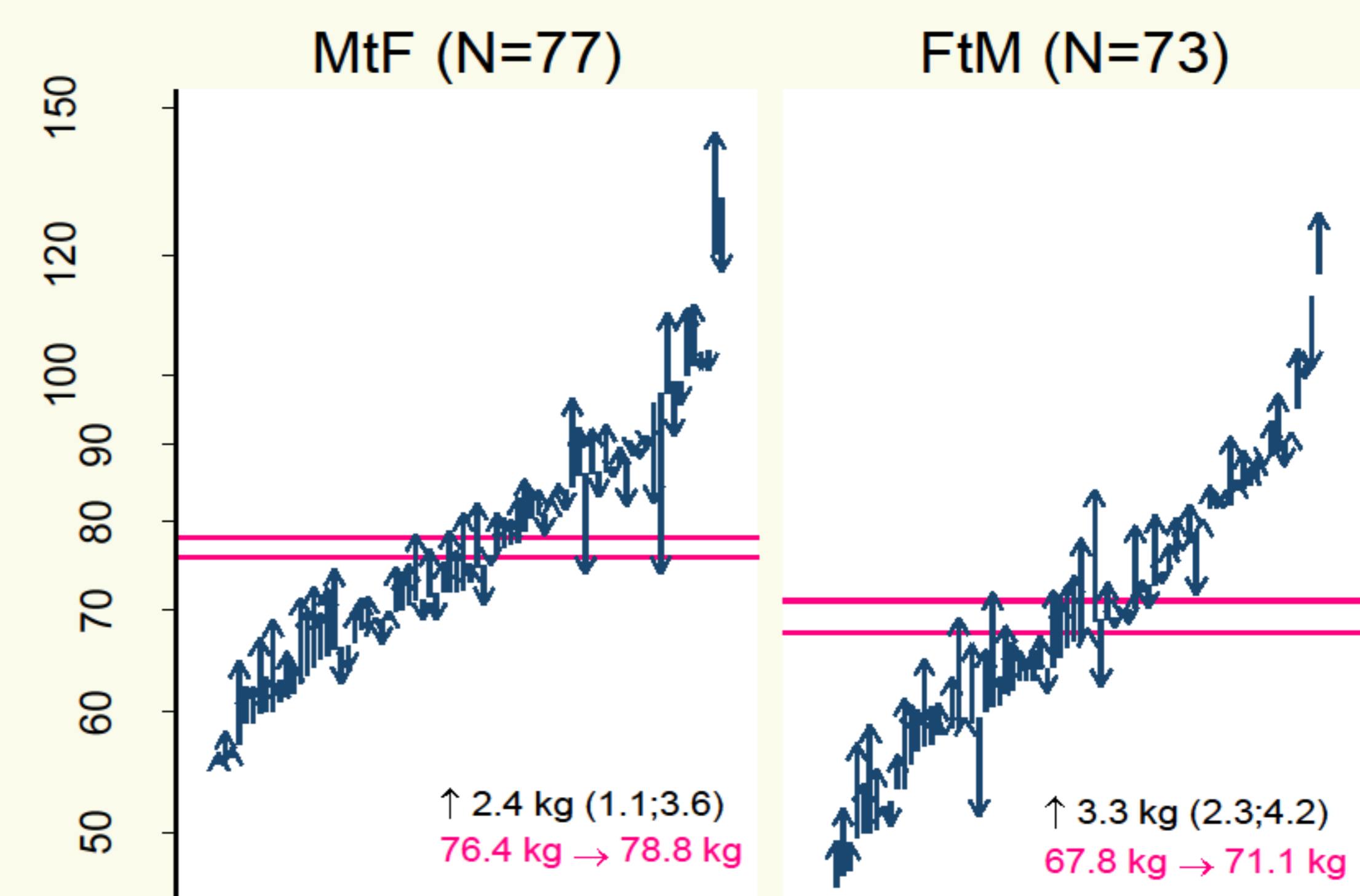


Fig 1: Changes in total body weight (kg) in MtF's and FtM's during the first year of cross-sex hormone therapy.

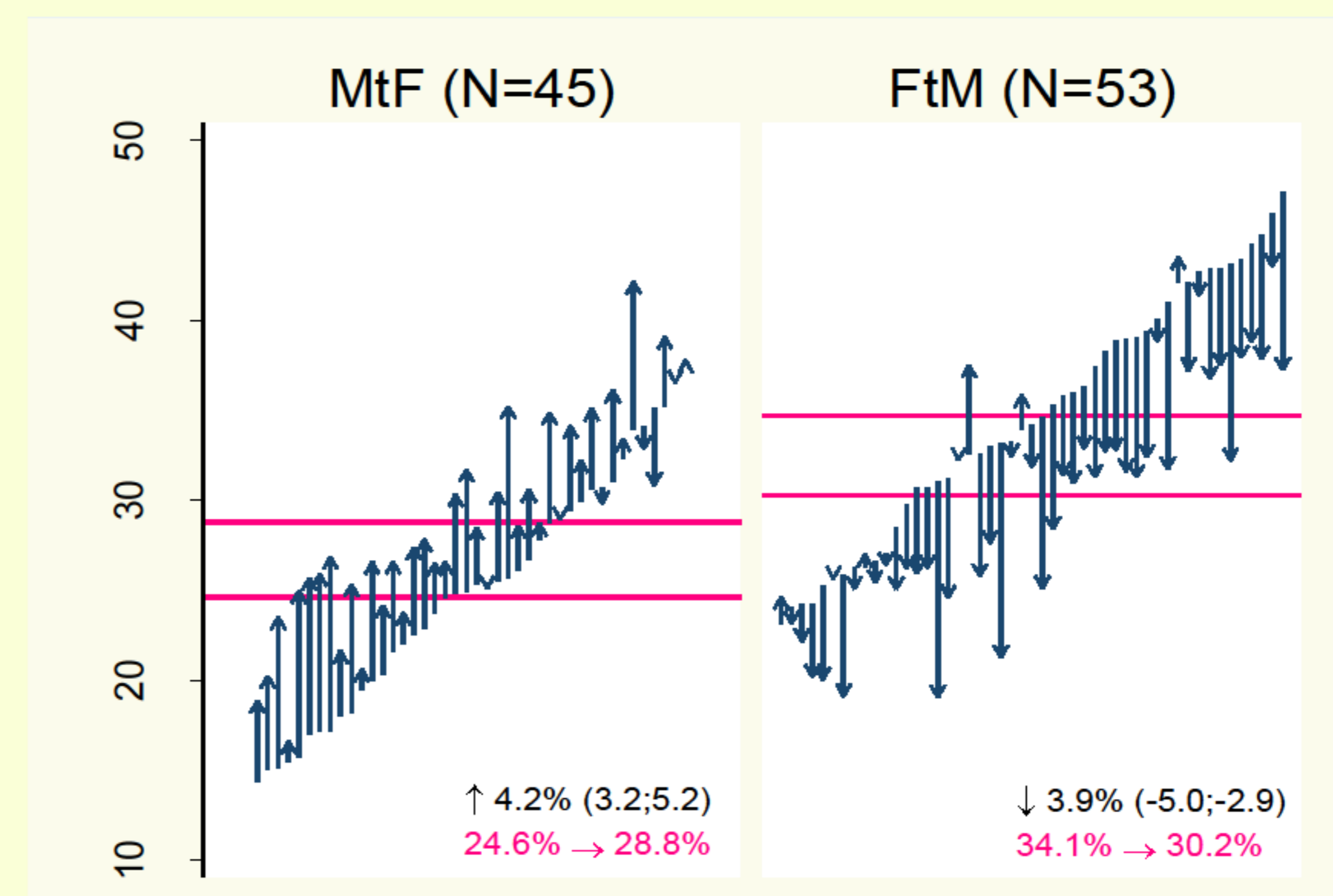


Fig 2: Changes in total body fat percentage (%) in MtF's and FtM's during the first year of cross-sex hormone therapy.

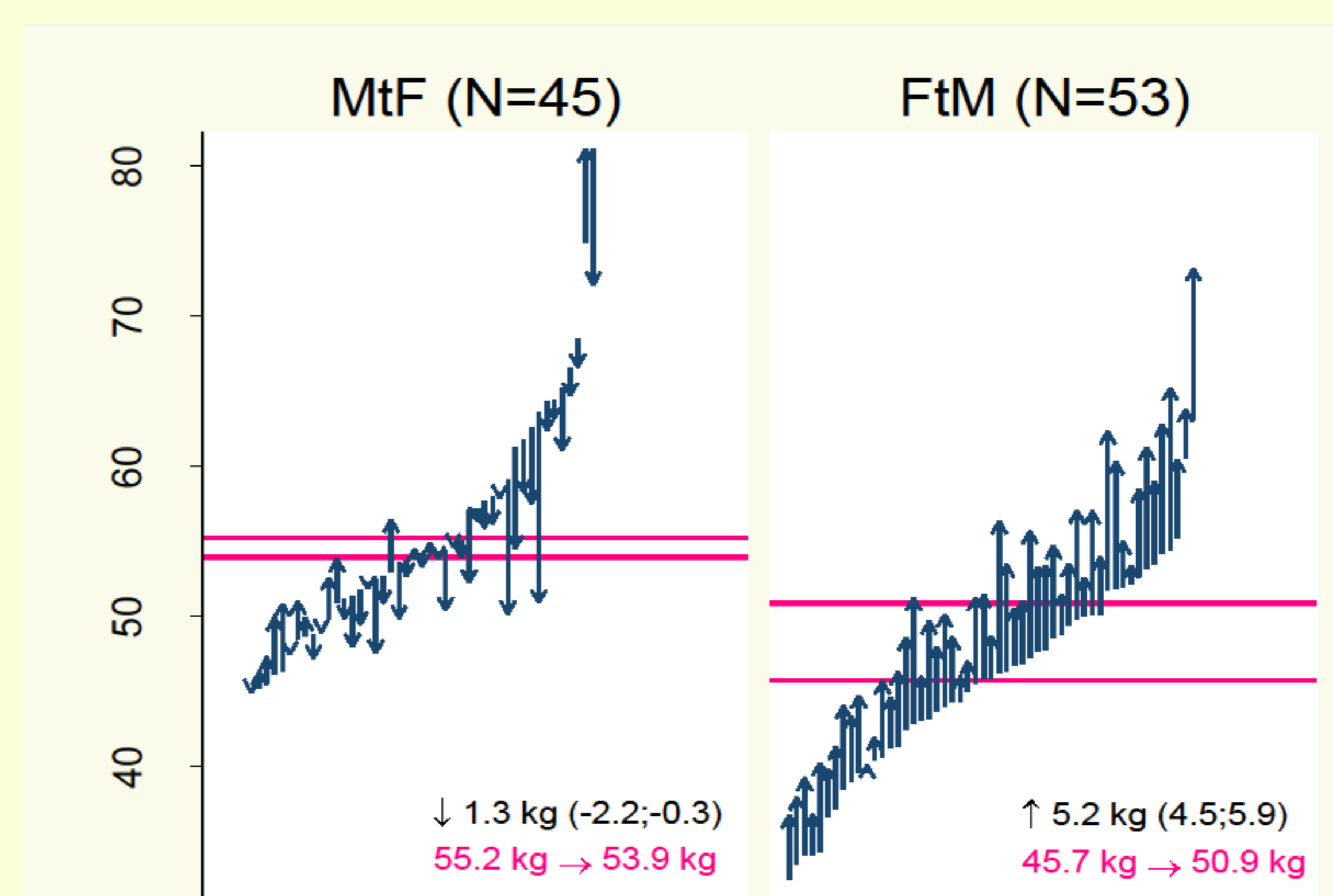


Fig 3: Changes in total body lean mass (kg) in MtF's and FtM's during the first year of cross-sex hormone therapy.

Conclusion

In MtF's an increase in body fat percentage and hip circumference was seen with a decrease in lean mass. In FtM's a decrease in body fat percentage and an increase in lean mass was measured. In both MtF's as FtM's an increase in total body weight and BMI is observed.

