

## Introduction

Controversy still exists about the effect of growth hormone treatment on linear growth and weight gain (WG) in children with idiopathic short stature (ISS).

### Aim

We studied linear growth and weight gain (WG) in children with ISS treated with growth hormone vs those not treated in comparison with treated children with GHD.

### Methods

We conducted longitudinal controlled study on 78 children presented to pediatric clinic with short stature (January - December 2017).

Children were classified to ISS and GHD based on growth hormone provocation test.

ISS children were randomly stratified into two groups. Group 1 (N=19) treated with growth hormone 0.035 mg/kg/day and group 2 (N= 30) were not treated with growth hormone.

Both groups were compared to GHD children (N=29) treated with growth hormone (0.03-0.05 mg/kg/day). The dose was tailored to keep IGF-1 SD between ( 0 to +2).

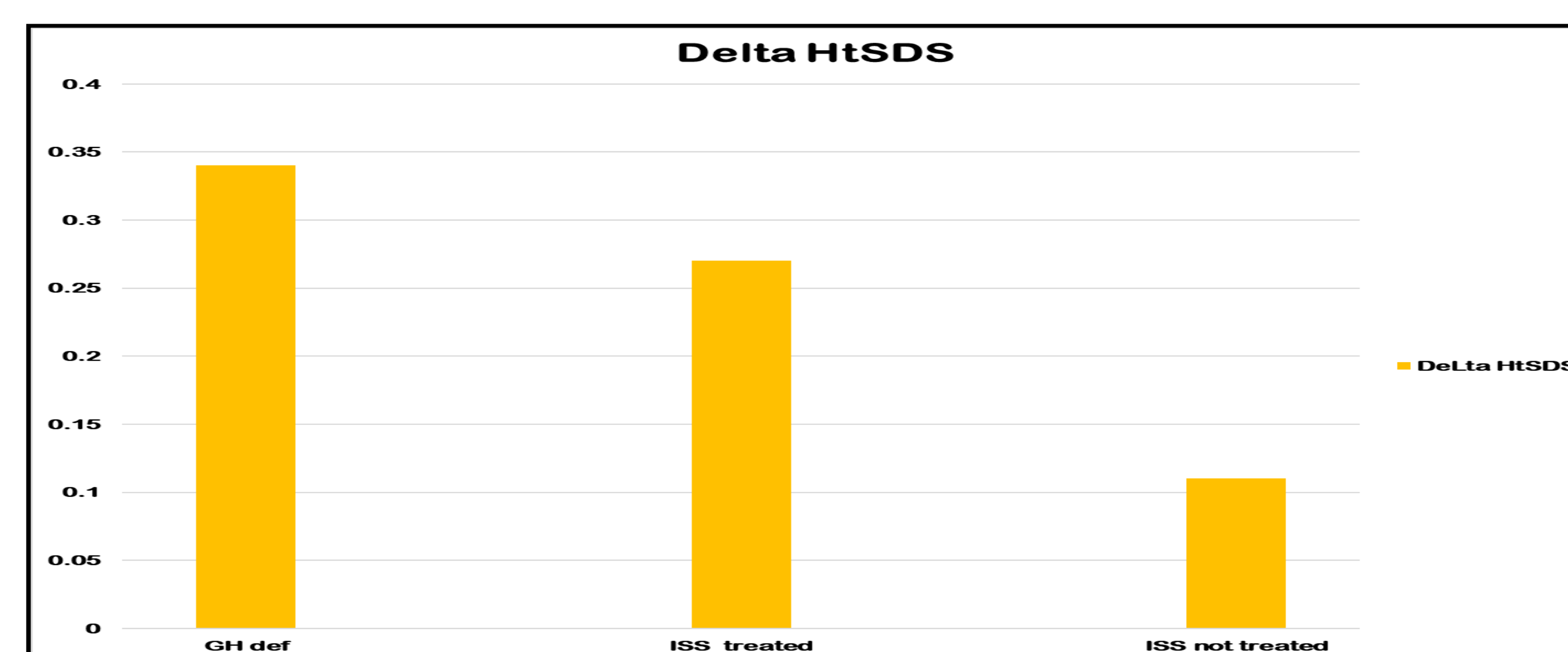
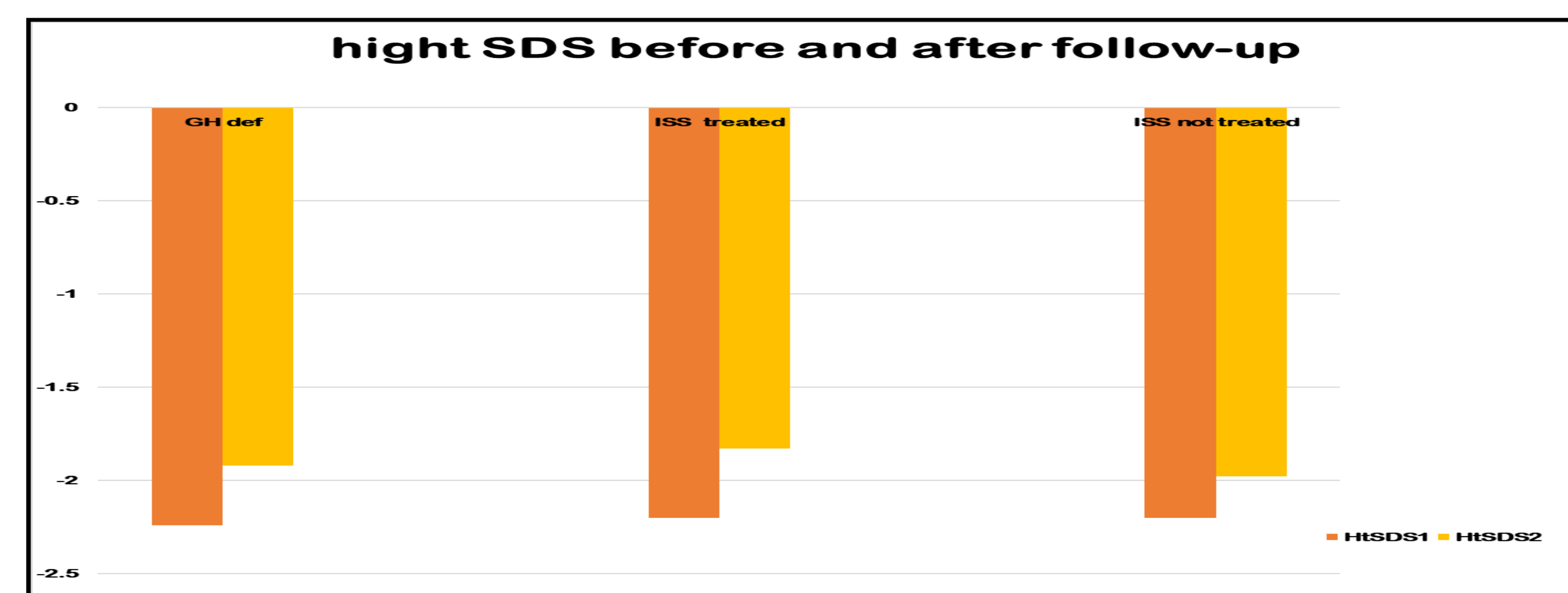
Anthropometrics data (HtSDS, difference from mid-parental height (MPH), BMISDS, and WG) , bone age and IGF-1 level were studied in the 3 groups for 1 year.

## Results

At presentation there was no deference in age, HTSDS, BMISDS, difference from MPHSDS, bone age and IGF-1 SD among the three groups. "Table" (P> 0.05).

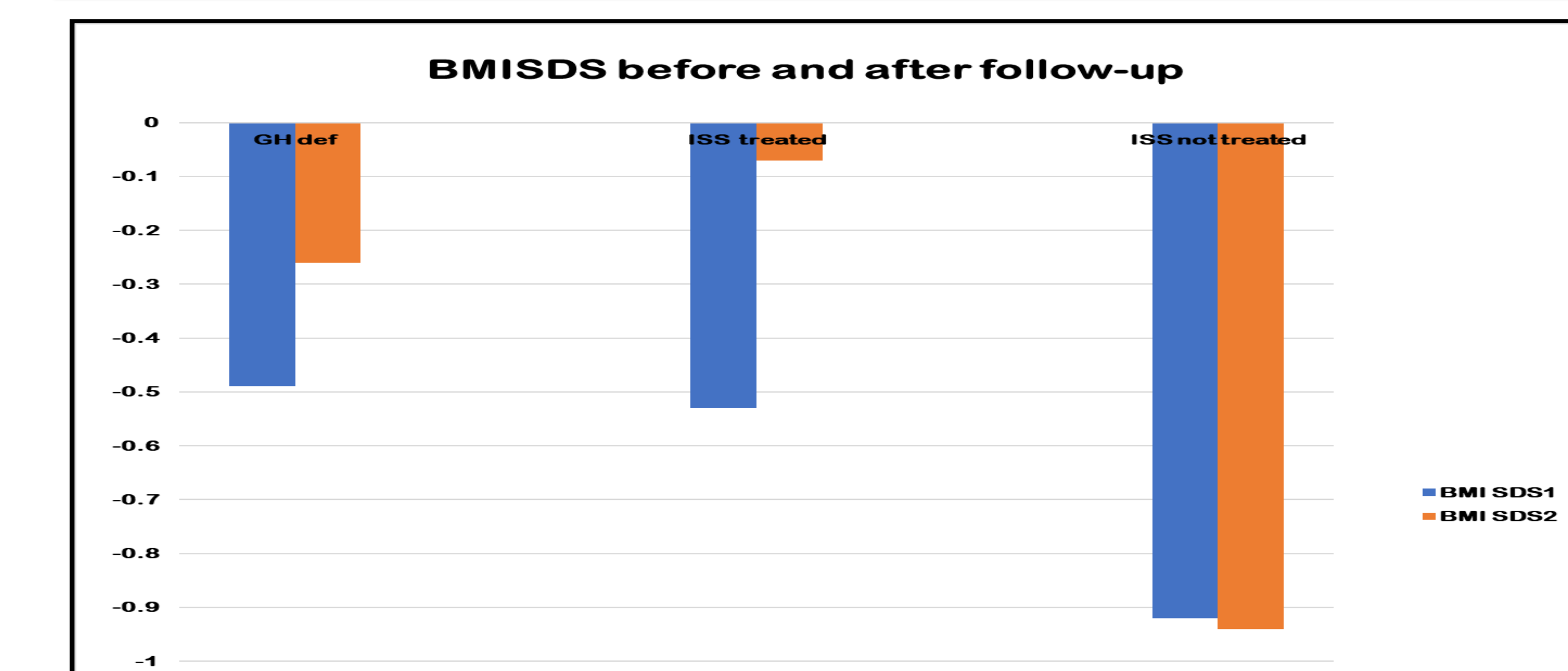
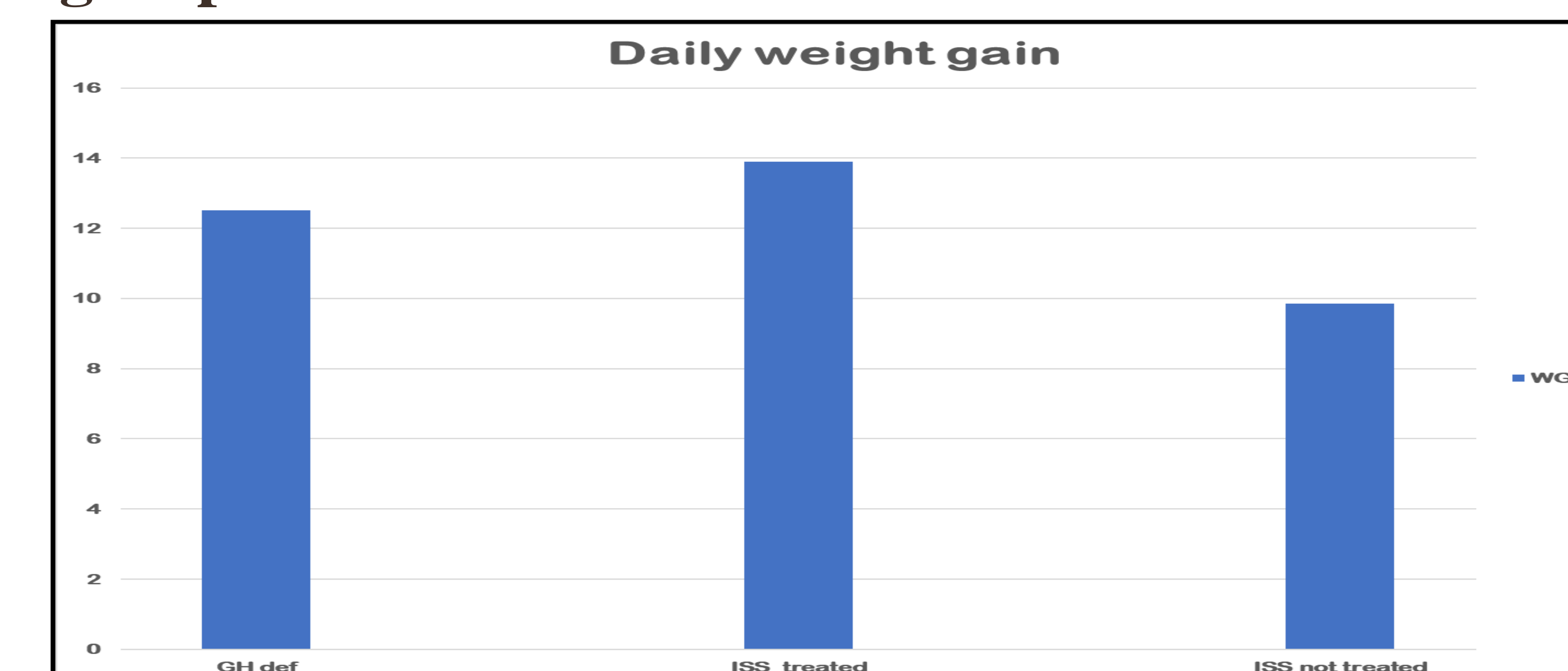
		Age 1	HtSDS1	BMI SDS1
GH def N (29)	Mean	9.77	-2.24	-0.49
	SD	3.58	0.63	1.29
ISS treated N (19)	Mean	10.58	-2.20	-0.53
	SD	2.30	0.64	1.09
ISS not treated N (30)	Mean	10.25	-2.20	-0.92
	SD	3.00	0.50	0.89

After 1 year, there was significant increase in HtSDS in GH treated groups P (< 0.01).



The increase in HtSDS, change in BMISDS and difference in HtSDS from MPHSDS did not differ among the two treated groups.

BMISDS and WG increased significantly (P=0.02) in treated vs. non treated groups whereas the increase in HtSDS was not significant in the non- treated ISS group.



## Conclusion

Growth hormone therapy improved the HtSDS, BMISDS and weight gain per day during the first year of treatment of ISS which was comparable to growth response of GHD children and significantly higher than ISS group who received no treatment