SOCIOECONOMIC FACTORS INFLUENCE RhGH TREATMENT ADHERENCE AND ITS RESPONSE IN CHILDREN.

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BACKGROUND AND OBJECTIVES

The mean final height attained with GH therapy is influenced by poor adherence to treatment. The main aim of this study was to identify non-adherent patients to GH therapy and to determine the influence of compliance in response to the treatment (IGF-I serum levels and growth velocity). We also evaluated the influence of socioeconomic factors on the therapeutic adherence.

METHODS

- 165 children treated with rhGH (Genotonorm miniquick) in 2012 were included.
- Age, gender, etiology, Tanner state, duration of treatment, growth rate, IGF-I serum values, daily dose and annual dose data were collected.
- The prescribed dose and the dose administered by the hospital pharmacy were compared.
- Poor adherence was defined as a rate below 92% of prescribed dosage, and very poor as less than 85% of the prescribed dosage.
- A subgroup of 106 patients (53 poor-adherent patients and 53 good-adherent ones) was asked to answer a questionnaire to assess social and environmental factors.

RESULTS

34 % of the patients showed moderate-low adherence to rhGH treatment**.**
The dose provided by the pharmaceutical area of the hospital was:
- less than 85% in 36 patients (22%)
- between 92-85% in 20 patients (12%).

Characteristics of the patients with good vs moderate-low adherence to rhGH treatment

		Good adherence	Moderate-low adherence	p
Age (years)		10.3 ± 2.8	11.3 ± 2.91	0.04
Gender n(%)	Male	62 (61.4)	39 (38.6)	0.12
	Female	46 (73)	17 (27)	
Pubertal stage n(%)	Prepubertal	59 (72.8)	22 (27.2)	0.06
	Pubertal	49 (59)	34 (41)	
Duration of treatment (years)		2.7 ± 1.7	3.7 ± 1.8	0.001
Daily dose (µg/kg/day)		28.2 ± 5.1	3.7 ± 1.8	0.001
IGF-I SDS		1.3 ± 1.0	0.4 ± 1.0	< 0.001
Growth velocity - SDS		1.5 ± 1.9	0.5 ± 1.5	0.001

164 children.
Sex: 101 (62%) boys and 63 (38%) girls
Age: 10.7±2.8 years (4–16)
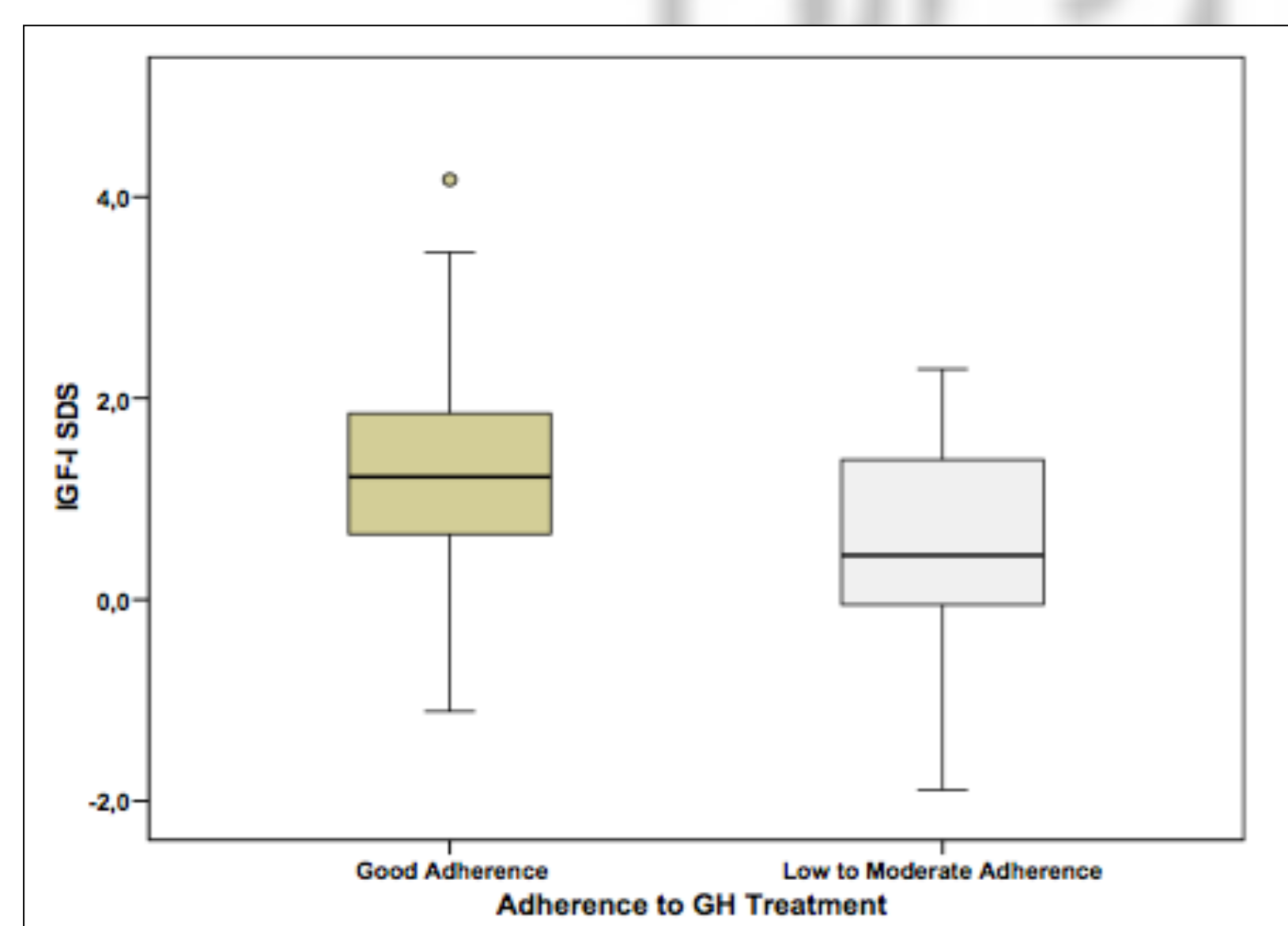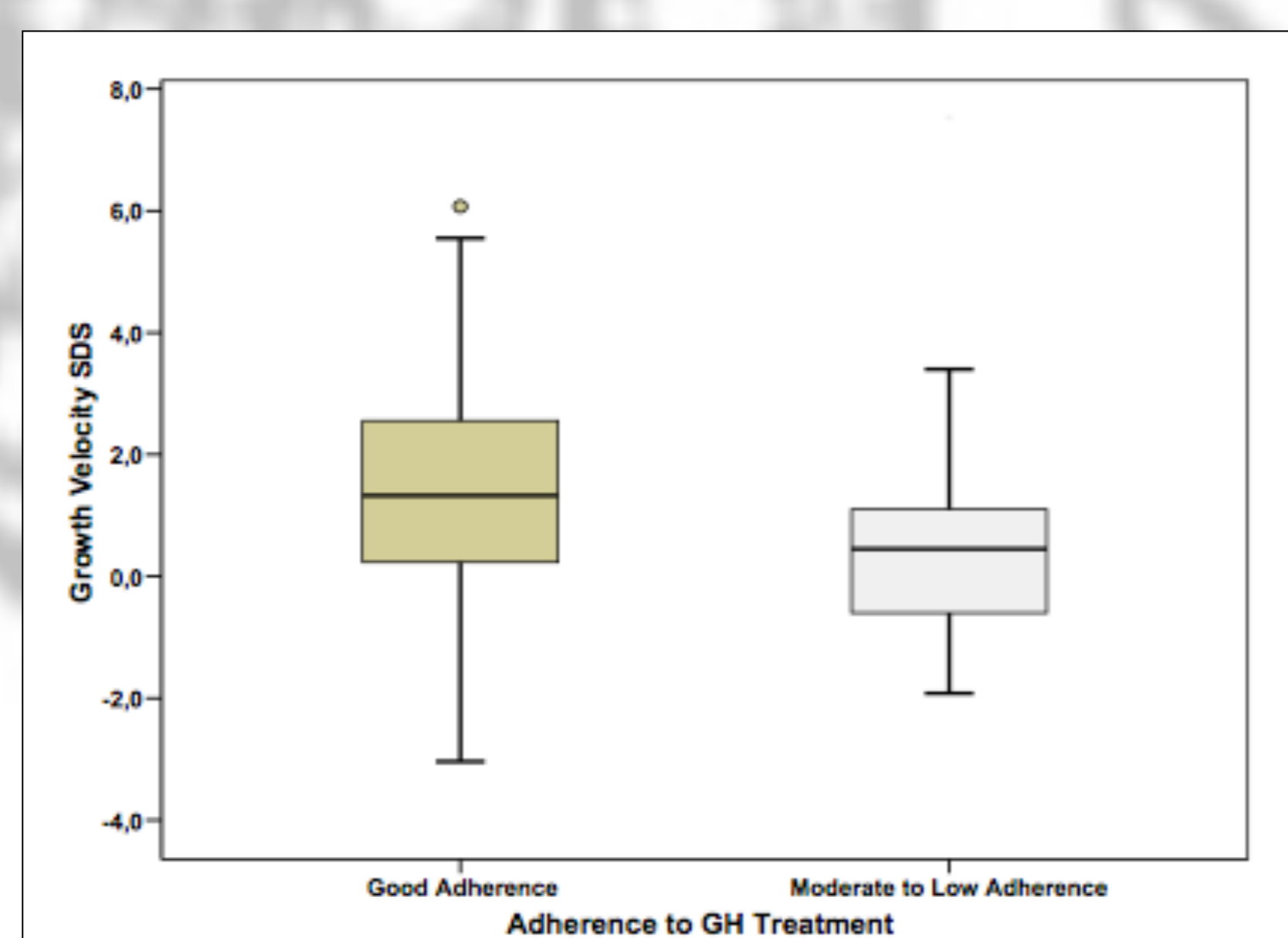Prepubertal state : 81 patients (49 %)
Duration of rhGH treatment : 3.1±1.7 years
Diagnosis: 70% idiopathic GH deficiency ,22% SGA, 3% panhypopituitarism:, 2% Turner Syndrome, 1% Prader Willi Syndrome .

There was a decrease in adherence associated with:
-age
- treatment duration
- worst growth rate
- lower levels of IGF –I

GV and ADHERENCE

IGF-I and ADHERENCE

		Good adherence	Moderate-low adherence	p
Origen n(%)	Caucasian	51 (94.4)	46 (88.7)	0.31
	Non-caucasian	3 (5.6)	6 (11.7)	
Family n(%)	Monoparental	5 (9.3)	5 (9.6)	0.95
	Biparental	49 (90.7)	47 (90.4)	
Mother's education n(%)	Basic	11 (33.3)	33 (63.5)	0.007
	High school	13 (24.1)	8 (15.4)	
	College	23 (42.6)	11 (21.2)	
Father's education n(%)	Basic	15 (27.8)	23 (44.2)	0.20
	High school	14 (25.9)	10 (19.2)	
	College	25 (46.3)	19 (36.5)	
Mother's type of work n(%)	Qualified	20 (37)	16 (30.8)	0.16
	Non-qualified	10 (18.5)	18 (34.6)	
	Unemployed	24 (44.4)	18 (34.6)	
Father's type of work n(%)	Qualified	19 (35.2)	12 (23.1)	0.34
	Non-qualified	28 (51.9)	30 (57.7)	
	Unemployed	7 (13)	10 (19.2)	
FAS scale	Low	13 (24.1)	15 (28.8)	0.78
	Medium	27 (50)	26 (50)	
	High	14 (25.9)	11 (21.2)	

The mother's level education was the only socioeconomic parameter analyzed showed a significant association with adherence

CONCLUSION:

- One third of our patients presented poor adherence to GH therapy, which results in suboptimal growth.
- IGF-I levels could be helpful to identify patients with lower adherence.
- Physicians should pay special attention to certain characteristics of the patient and their environment to encourage desirable therapeutic compliance.

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