

Height perception of children with Growth Hormone Deficiency: influencing factors and links to psychosocial functioning

C. Drosatou^{1,2}, E. Vlachopapadopoulou¹, M. Bullinger³, J. Quittmann³, N. Silva^{3,4}, S. Michalacos¹, K. Tsoumakas²

¹ Department of Endocrinology-Growth and Development, Athens General Children's Hospital "P. & A. Kyriakou", Athens, Greece

² Nursing Department, National and Kapodistrian University of Athens, Athens, Greece

³ Department of Medical Psychology, University Hamburg-Eppendorf, Hamburg, Germany

⁴ Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra, Portugal



Introduction

It has been reported in literature, that growth hormone (GH) treatment leads to better psychosocial functioning in children with growth hormone deficiency (GHD), due to growth acceleration.

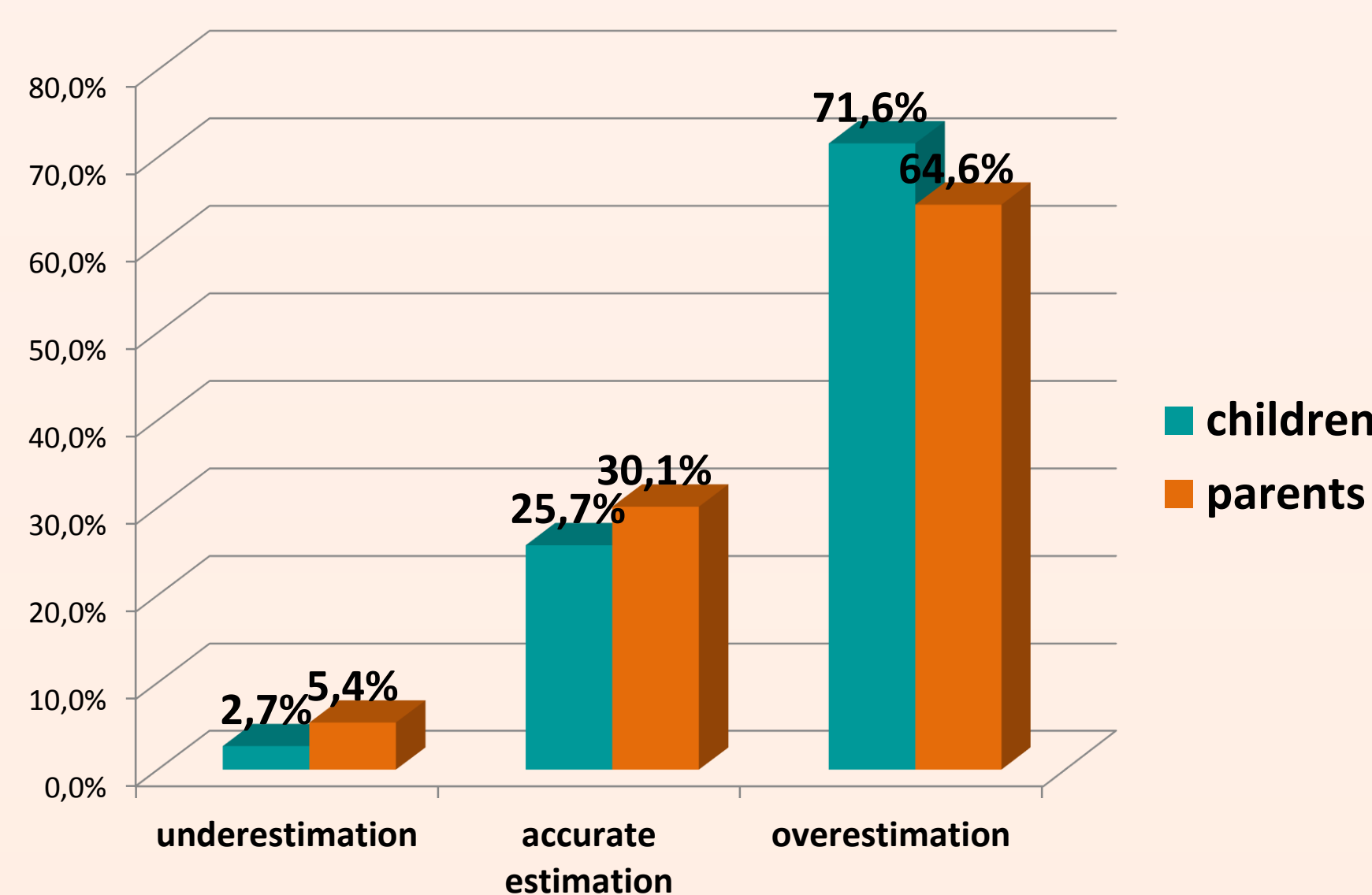
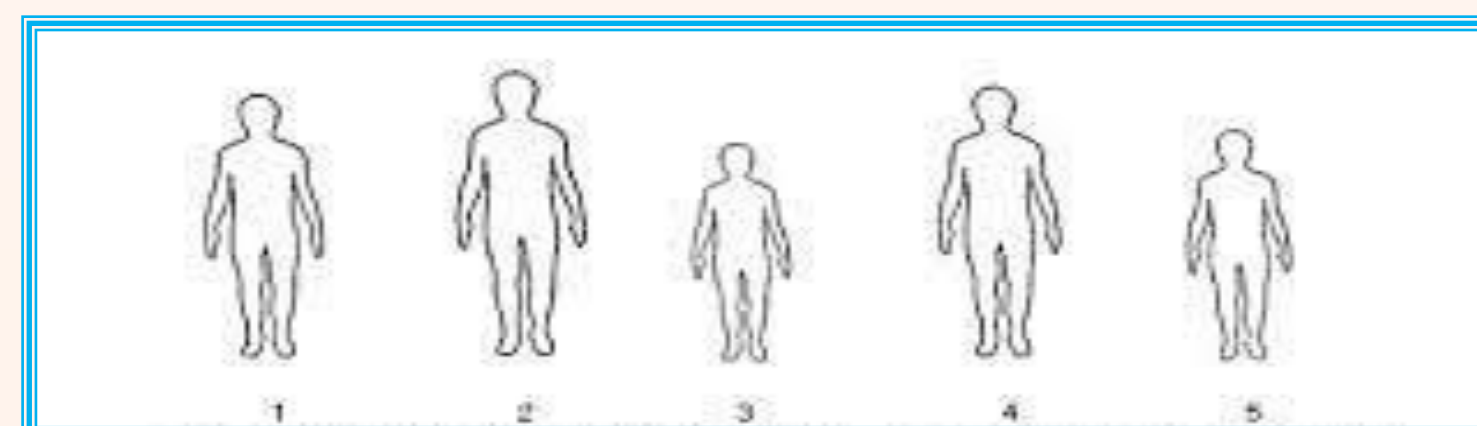
Perceptions of children with GHD and their parents about children's height, as well as the influence of these perceptions on their quality of life, have not been studied adequately.

Objectives

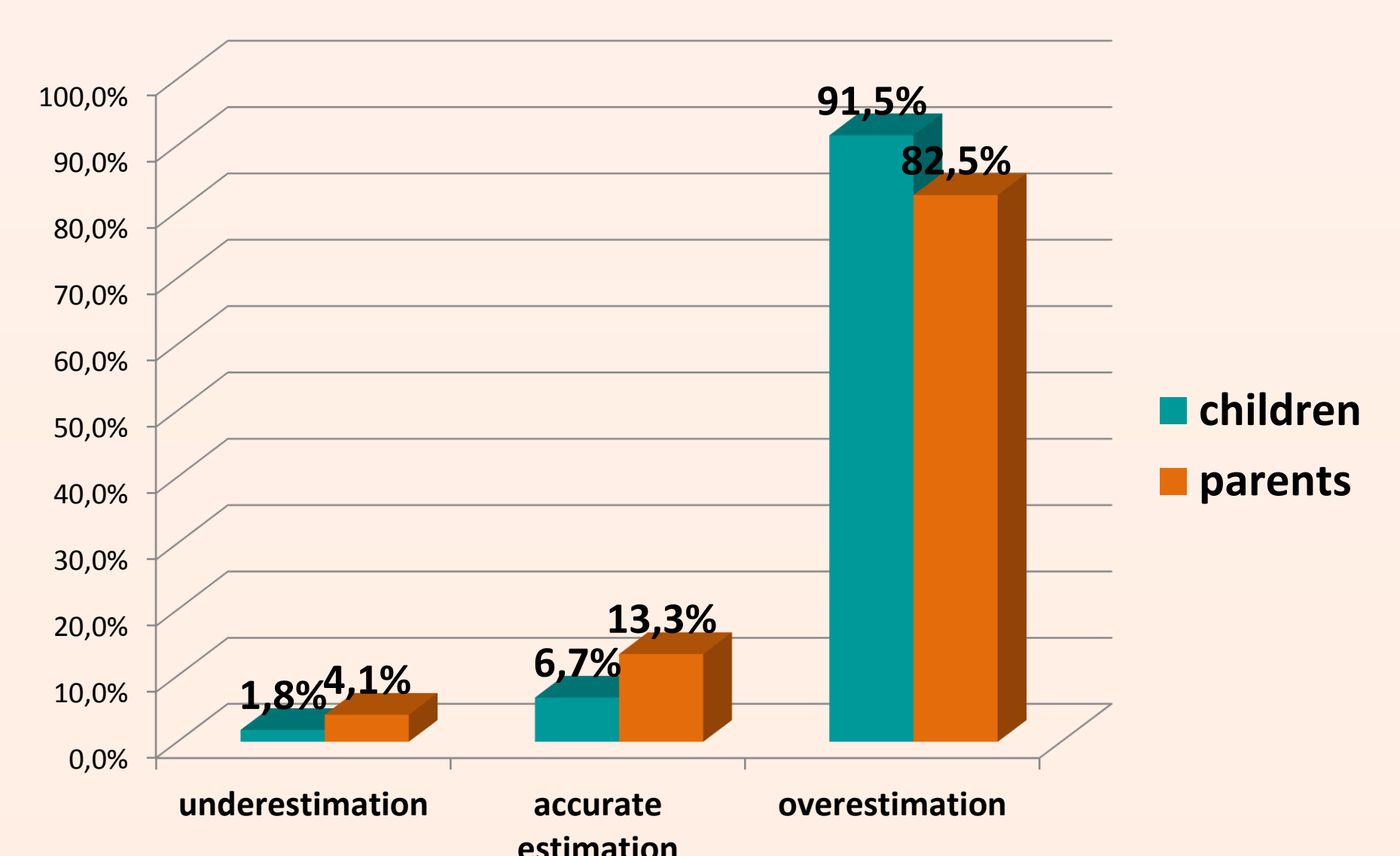
- The evaluation of the perception of children with GHD and their parents, regarding their current and future predicted height, as well as the modulating factors.
- The investigation of the relation between perceptions of height and psychosocial functioning in children with GHD.

Methods

- 322 children/adolescents (219 boys) diagnosed with (isolated) GHD, treated with GH.
- The Greek version of the Quality of Life in Short Stature Youth (QoLISSY) questionnaire and the Silhouette Apperception Technique (SAT) questionnaire completed by patients, as well as one of their parents.
- Chi-square test of independence for evaluation of the associations between SAT and demographics.
- Mann-Whitney test for the evaluation of the relation between SAT and QoLISSY questionnaire.



Parents and children perceptions for the children's present height



Parents and children perceptions for the children's future predicted height

Results

- The **majority** of children/adolescents (71.6%) and their parents (64.6%) **overestimated** patient's current height.
- The **majority** of children/adolescents (91.5%) and their parents (82.5%) **overestimated** patient's future predicted height.
- Age and parental educational level were associated with the accuracy of the perceptions. Younger children ($p=0.036$) and those whose father had a high educational level ($p=0.021$) perceived their present height with more accuracy. The parent report analysis yielded comparable results.
- Concerning predictions for adult height, younger age of patients ($p=0.037$), medium socioeconomic status of the family ($p=0.042$) and parents' short stature (0.012) were positively related with overprediction.
- Overestimations of height on behalf of children were not associated with changes in their perceived HRQoL.
- Parents overestimating children's current height, reported higher levels of Physical QoL ($p=0.016$), Social QoL ($p=0.001$) and Total QoL ($p=0.005$) for their children. They also had a more positive perception for their children's experience linked to GH treatment ($p=0.039$) and referred that their children worry less about their future related to their short stature ($p=0.024$).
- Accurate predictions for adult height, on behalf of the parents, were related with higher scores for children's general beliefs about stature ($p=0.049$).

Conclusions

The results of the present study suggest that the majority of GH treated patients and their parents overestimate the child's current and predicted height.

The relation between overestimation of height and better HrQoL poses the question whether increased perceived height leads to better psychosocial adaptation or if it simply consists a defense mechanism.

Demographics

		N	%
Gender	Boys	219	68
	Girls	103	32
Maternal educational level	<12 years	173	54
	>12 years	149	46
Paternal educational level	<12 years	183	56.9
	>12 years	139	43.1
Residence	Rural	81	25,1
	Urban	241	74,9
Family Affluence Scale (FAS)	Low	13	3,9
	Medium	164	50,9
	High	145	45,2
Age (years), median range \pm SD			13.1 \pm 2,5
Duration of GH treatment (years), median range \pm SD			3.4 \pm 2,6

