

# FRENCH GROWTH REFERENCE CHARTS SHOULD BE UPDATED

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## Background

- Growth charts constitute an important tool for monitoring a child's growth and development, and thus detect growth anomalies
- Growth assessment allows early referral and optimal management of treatable disorders
- In France, questions are raised about the use of growth reference charts of Sempé derived at the end of 70s and based on children born on 50s in Paris area.

## Subjects and Methods

**2736 schoolchildren** in 3<sup>rd</sup> grade during school period 2008-2009 in Paris were included after stratification of 75 among 345 primary schools

The majority of children had at least 2 medical school visits:

- 1<sup>st</sup> visit: entry at the primary school at 6 years,
- 2<sup>nd</sup> visit: 3<sup>rd</sup> grade, at age of 8-9 years

### Prospective analysis of:

- birth data (weight, length, head circumference, gestational age), data on any presence of chronic disease and life conditions (adoption..) for every child
- growth data: weight, height, BMI during medical school visits

## Objectives

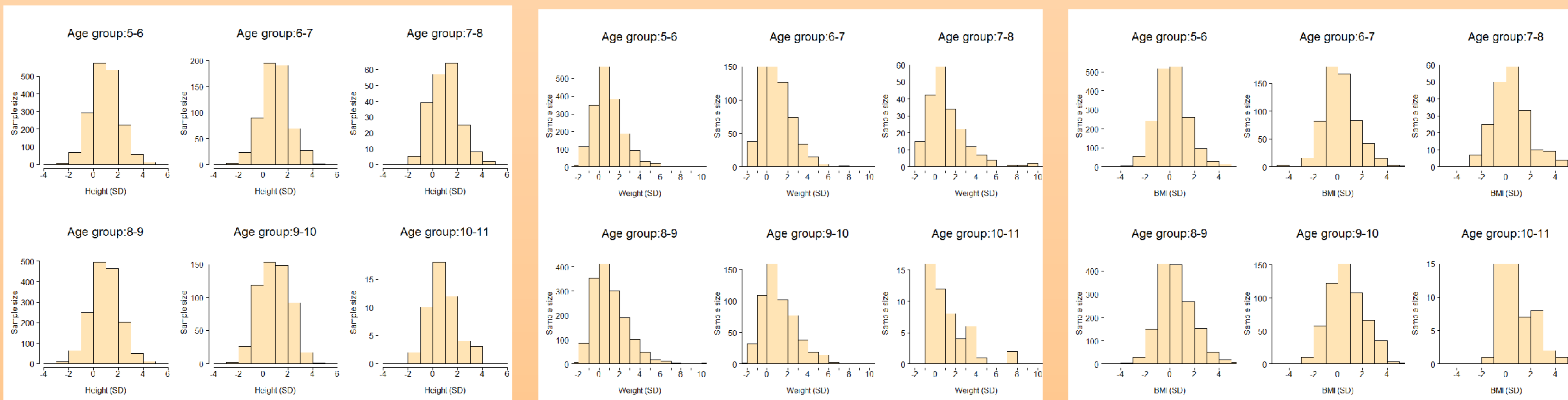
- 1) Study the prevalence of growth disorders and overweight/obesity in schoolchildren attending 3<sup>rd</sup> grade in primary schools during 2008-2009
- 2) Determine if school medical visits are an effective screening tool for growth anomalies and obesity

## Results

Table 1: Height of children expressed in SD for different age groups during the follow-up

	[5-6[		[6-7[		[7-8[		[8-9[		[9-10[		[10-11[		[11-12[	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
-2SD <= height <= 2DS	1469	83.3	498	83.4	166	83	1273	82.4	448	80.4	42	85.7	4	66.7
height < -2 SD	6	0.3	2	0.3	0	0	10	0.6	2	0.4	0	0	0	0
height > +2 SD	289	16.4	97	16.2	34	17	262	17	107	19.2	7	14.3	2	33.2
height < -1.5 SD	21	1.2	10	1.7	1	0.5	22	1.4	15	2.7	0	0	0	0
height < -1 SD	74	4.2	25	4.2	5	2.5	73	4.7	28	5	2	4.1	0	0

Figures 1-3: Height, Weight and Body Mass Index (BMI) of schoolchildren expressed in SD and observed for different age groups



**Height (+0.9 ± 1.2DS), weight (+1 ± 1.7DS) and BMI (+0.4 ± 1.4DS) were higher compared to French reference growth charts**

## Conclusions

The prevalence of overweight and obesity (BMI>p97) was 20% for girls and 15.3% for boys aged of 8-9 years  
This prevalence remained stable during last years in France

Can school health check-ups serve as screening tool for growth anomalies and obesity in children?

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❑ School medical visits are a useful screening tool for growth disorders and overweight/obesity in schoolchildren.

❑ **French reference charts are no longer appropriate to assess growth during childhood and need to be updated**

❑ The close collaboration between school doctors and paediatricians is indispensable in order to optimize the number of children screened and referred to specialists

