

# Sleep and weight status at 4 years in the INMA Asturias cohort

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## INTRODUCTION

Epidemiologic studies have documented that sleep duration is associated with obesity risk in children

## OBJECTIVES

- 1) To investigate sleep duration of four-year-old children (hour/day)
- 2) To evaluate the association of sleep patterns with weight status at 4 years

## METHODS

**393 children** from the INMA birth cohort of Asturias (Spain).

We analysed sleep duration (hour/day) during the night and afternoon nap, reported by their parents, and BMI was calculated.

Children were categorized as normal weight, overweight (OW) or obese (OB) according to the IOTF (Cole et al, 2000). Definition of "short sleep" for children is usually <10 h. Statistical analyses were conducted.

## RESULTS

### Sleep duration

**20.3 % children had OW or OB at 4 years**

Total sleep duration (night + afternoon nap) according BMI.

		BMI 4 years old child			
		Total	Normal	Overweight	Obesity
Total sleep duration (h/d) (night+afternoon nap)	N	393	304	52	37
	Mean	10.43	10.40	10.51	10.55
	SD	1.04	1.04	1.07	1.08
	Min	7.35	7.35	7.50	9.00
	P25	10.00	10.00	10.00	10.00
	Median	10.50	10.48	10.75	10.50
	P75	11.00	11.00	11.00	11.00
	Max	14.00	14.00	12.00	14.00

Figure 1

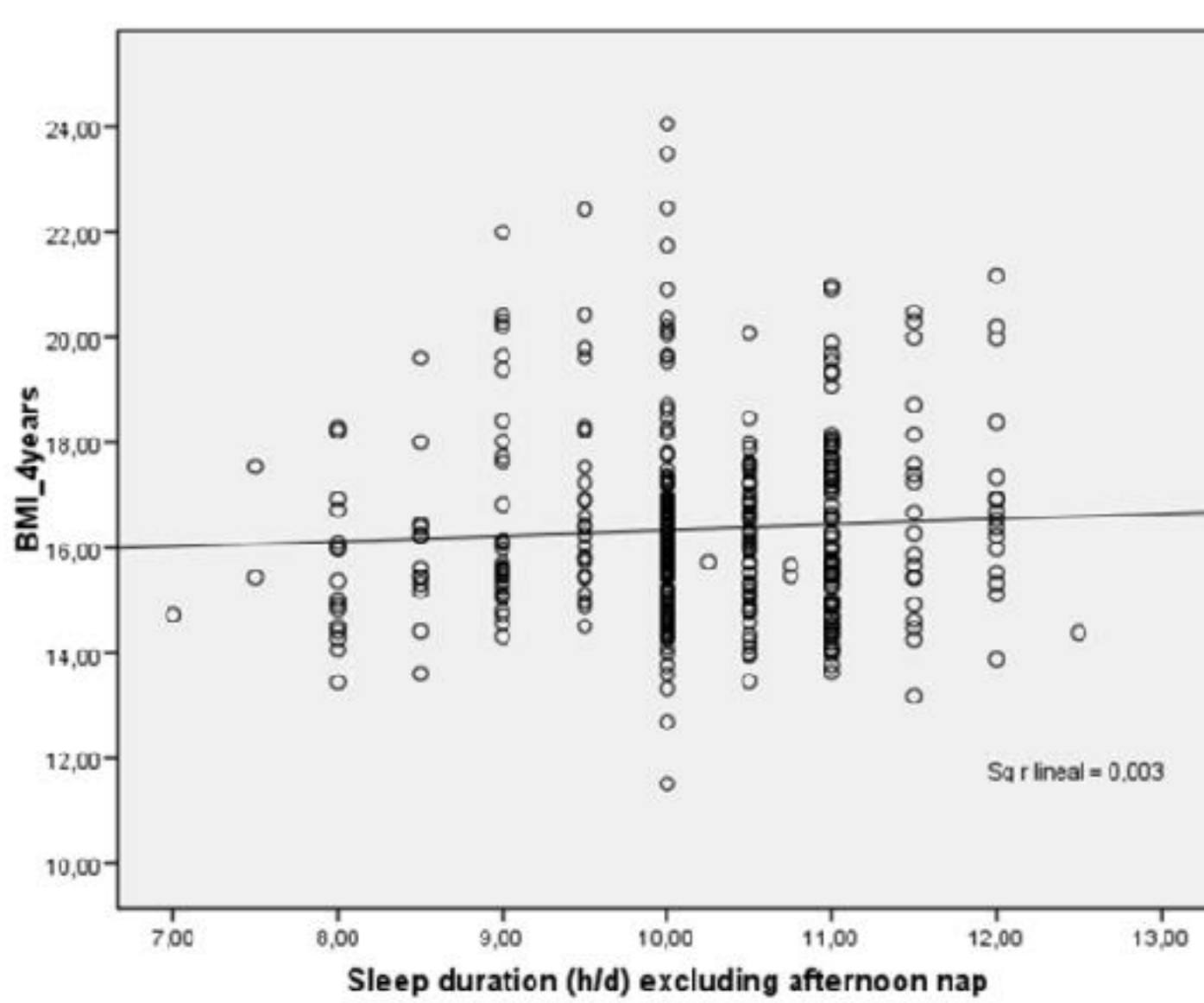
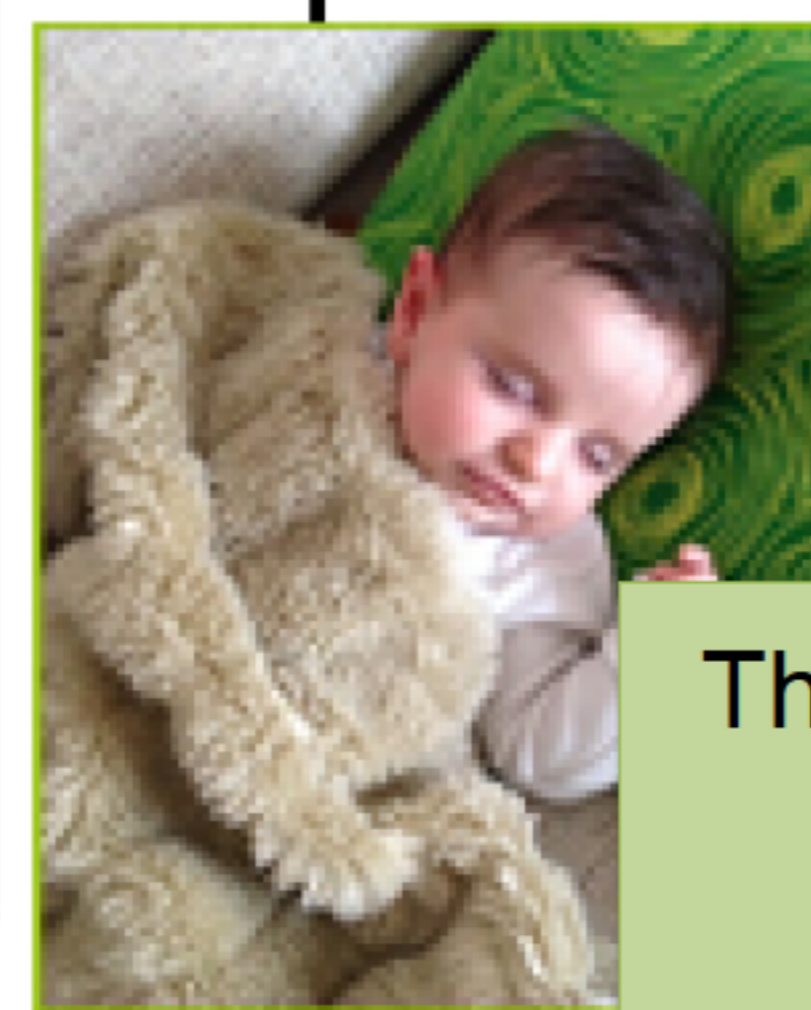
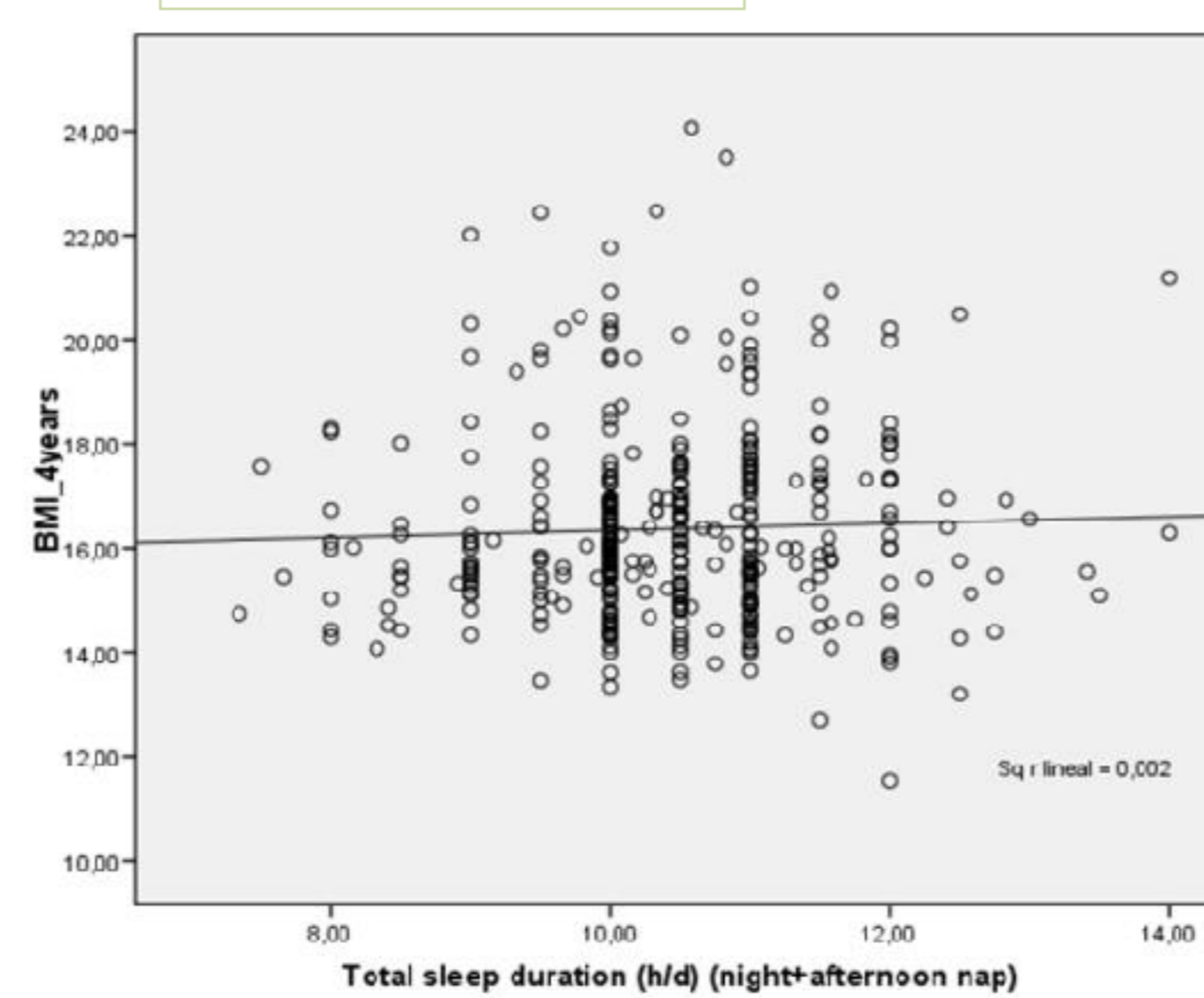


Figure 2



The risk of OW or OB according sleep duration is: (OR crude 1.16; 95%CI: 0.92-1.46).

After adjusting by gender, social maternal class, educative maternal level, physical activity, frequency of fruit and vegetable intake adjusted by calories and total calories intake neither is there statistical significance (OR adjusted 1.12; 95%CI 0.89-1.40).

There are not association between BMI at 4 years and sleep duration (hour/day) during the night (figure 1) nor including afternoon nap (figure 2).

## CONCLUSIONS

- Our children slept a mean of 10:25 hours per day.
- No association between sleep duration and weight status in 4-year-old children were found.
- Children included in other studies were older and slept fewer hours.

Disclosure statement: The authors haven't got any conflict of interest related to this presentation

