



CHANGES IN OBJECTIVELY MEASURED SLEEP QUALITY AFTER AN INTEGRAL INTERVENTION IN PATIENTS WITH ABDOMINAL OBESITY

Cristina Azcona San Julián^{1,4}, Ana Catalán Lambán¹, Lydia Morell Azanza², Ana Ojeda Rodríguez², Asier Oliver Olid¹, María Chueca Guindulain^{3,4}, Amelia Marti Del Mora^{2,4}
 Clínica Universidad de Navarra¹, University of Navarra², Complejo Hospitalario de Navarra³, IdisNa⁴. Pamplona. Spain.

AIM

To study sleep quality, using accelerometry, in children and adolescents with abdominal obesity after a multidisciplinary intervention.

PATIENTS, MATERIAL AND METHODS

- 122 children and adolescents. Age: 7- 6 years.
- Diagnosed with abdominal obesity (waist circumference >p90, according to enKid study data)
- Integral intervention to lose weight during 8 weeks (intensive phase). Follow-up: 2 years.
- Intervention group: hypocaloric mediterranean diet.
- Control group: food pyramid recommendations (SENC, 2007).
- Recommendation: to increase moderate-vigorous physical activity: 200 minutes per week in both groups.
- Sleep was assessed by accelerometry (wActisleep-BT, Actilife6) at onset, 8 weeks, one and second years.
- Anthropometric data: weight, BMI-SDS, waist and hip circumferences.
- Sleep parameters: number of awakenings, total sleep time (minutes) and efficiency (%).
- Statistical analysis: STATA 12.0.

RESULTS

Parameter	End of intensive phase	2 years
ΔWeight	-2.39 (SD 2.22; p<0.001)	-8.34 (SD 8.54; p<0.0002)
ΔBMI-SDS	-0.48 (SD 0.60; p<0.01)	-0.55 (SD 0.93; p=0.01)
ΔWaist	-3.94 (SD 3.65; p<0.001)	--2.1 (SD 5.61; p<0.006)
ΔHip	-2.28 (SD 3,03; p<0.0001)	-5.85 (SD 7.43; p<0.001)

End of intensive phase

	Mean difference (SD)	p
Number of awakenings	-1.95 (0.615)	0.002

Adolescents	Mean difference (SD)	p
TST	27.09 (11.10)	0.0197
Number of awakenings	-1.70 (0.65)	0.0136

2-year follow-up

- Association between weight and number of awakenings (r=0.36; p=0.0122).
- Association between number of awakenings and waist circumference (r= 0.43; p= 0.028).
- Sleep efficiency improvement in comparison to the study onset (2.72 %, IC -3.93;-1.50, SD: 3.98; P<0.0001).

1-year follow-up

- Decrease in number of awakenings (p=0.006).
- Increase in total sleep time (p= 0.006).

There are no statistically significant differences in sleep parameters between both groups.

CONCLUSIONS

- The significant changes observed in the anthropometrical parameters at the end of intervention remain throughout patient follow-up.
- The significant sleep improvement, the decrease in the number of awakenings and the increase in the total sleep time at 2-year follow-up may contribute to decrease cardiometabolic risk in this patients.

