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

PATIENTS, MATERIAL ANS 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 (wActileep-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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>End of intensive phase</th>
<th>2 years</th>
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</thead>
<tbody>
<tr>
<td>∆Weight</td>
<td>-2.39 (SD 2.22; p&lt;0.001)</td>
<td>-8.34 (SD 8.54; p&lt;0.0002)</td>
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<tr>
<td>∆BMI-SDS</td>
<td>-0.48 (SD 0.60; p&lt;0.01)</td>
<td>-0.55 (SD 0.93; p=0.01)</td>
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<tr>
<td>∆Waist</td>
<td>-3.94 (SD 3.65; p&lt;0.001)</td>
<td>-2.1 (SD 5.61; p&lt;0.006)</td>
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<tr>
<td>∆Hip</td>
<td>-2.28 (SD 3.03; p&lt;0.0001)</td>
<td>-5.85 (SD 7.43; p&lt;0.001)</td>
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</table>

End of intensive phase

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<tr>
<th>Adolescents</th>
<th>Mean difference (SD)</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td>Number of awakenings</td>
<td>-1.95 (0.615)</td>
<td>0.002</td>
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</tbody>
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1-year follow-up
• Decrease in number of awakenings (p=0.006).
• Increase in total sleep time (p=0.006).

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).

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.