Health Related Quality of Life and Physical Activity after Multiple surgeries in Patients with Early Onset Scoliosis

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Disclosures

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Health related quality of life

Physical activity
Materials and Methods

2000 – 2016

77 patients treated surgically before age 10 y

39 patients

38 patients lost

18 did not want to participate
8 not eligible
1 dead
11 missed one of the forms
71% neuromuscular
45% independent walkers
Materials and Methods

2016 Cross sectional study

Early Onset Scoliosis 24-item Questionnaire

Questions about physical activity

Accelerometer for one week
Actigraph©
Norwegian surveillance system for physical activity

\(n=3500\)

- **Sedentary** – Sitting, standing

- **Light activity** – Walking slow, no raise in heart rate

- **Moderate** - Fast walking, playing in school yard, significant raise in heart rate

- **Vigorous** – Running, work out, soccer.
Results
39 patients

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>13 (4)</td>
</tr>
<tr>
<td>Index age</td>
<td>6 (3)</td>
</tr>
<tr>
<td>Number of surgeries</td>
<td>13 (7)</td>
</tr>
</tbody>
</table>

Walking ability

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>67 %</td>
</tr>
<tr>
<td>Reduced</td>
<td>20 %</td>
</tr>
<tr>
<td>Wheel chair</td>
<td>13 %</td>
</tr>
</tbody>
</table>

Pie chart showing distribution:

- Congenital: 41%
- Idiopathic: 21%
- Syndromic: 21%
- Neuromuscular: 21%

Mean (SD) for:
- Age: 13 (4)
- Index age: 6 (3)
- Number of surgeries: 13 (7)
- Walking ability: Normal 67%, Reduced 20%, Wheel chair 13%
## Mean Total score EOS-Q

<table>
<thead>
<tr>
<th>Etiology</th>
<th>Congenital</th>
<th>neuroMusc</th>
<th>Syndromic</th>
<th>Idiopathic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etiology</td>
<td>74 (13)</td>
<td>48 (15)</td>
<td>51 (13)</td>
<td>72 (9)</td>
<td>p&gt;0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to walk</th>
<th>Walking</th>
<th>Reduced</th>
<th>Wheel chair</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to walk</td>
<td>71 (12)</td>
<td>48 (15)</td>
<td>43 (11)</td>
<td>p&gt;0.001</td>
</tr>
</tbody>
</table>
EOS-Q 24  n=32

- Normal walking ability (Idiopathic/congenital): 74, n=16
- Normal walking ability (Neuromuscular/Syndromic): n=3
- Reduced ability to walk (Neuromuscular/Syndromic): n=7
- Wheel chair (Neuromuscular/Syndromic): 43, n=6

Mean Score

Normal walking ability

Reduced ability to walk

Wheel chair
Physical activity
Duration in hours pr week

Mean Hours

<table>
<thead>
<tr>
<th>Condition</th>
<th>Normal walking ability</th>
<th>Normal walking ability</th>
<th>Reduced ability to walk</th>
<th>Wheel chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idiopathic/congenital</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Neuromuscular/Syndromic</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
26 walkers
22 with accelerometer
Conclusion

• It seems that Health Related Quality of Life is reduced in the surgically treated EOS population
  – Walking ability
  – Etiology
• The patients with walking ability have comparable level of physical activity as healthy Norwegian children
  – They are lazy like other youths