Quality of Life of Adult Patients with Early-Onset Scoliosis Treated during Childhood

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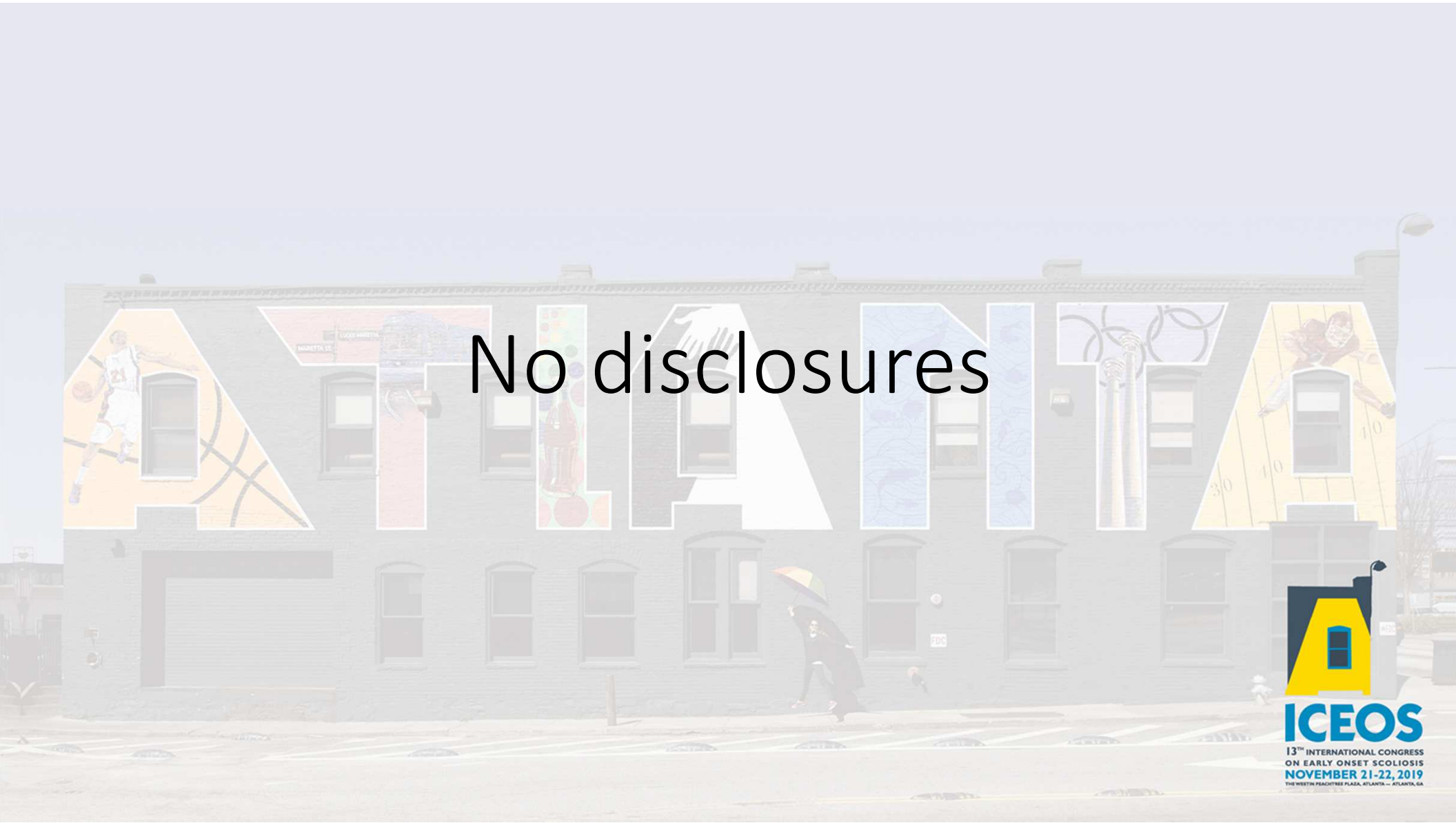

No disclosures

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Introduction

Aim scoliosis treatment

- Alter the natural history
- Keep the curve as small as possible at skeletal maturity
- Prevent future problems in adulthood

Long-term effects of treated EOS patients are largely unknown

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Objective

Evaluate QoL of adult EOS patients treated >20 years ago

EOS vs. national reference cohort

Cohort selection

One center scoliosis database

Inclusion criteria

- All patients diagnosed with early onset scoliosis
- Treated at our institute during childhood
- Follow-up >20 years after skeletal maturity

Exclusion criteria

- Neuromusculair or syndromal scoliosis

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Outcome

- **Primary outcome**
  - SF-36 [0-100, high is positive]
    - EOS vs Dutch reference cohort (IQOLA project[1])

- **Secondairy outcomes**
  - SF-36 & SRS-22r
    - Congenital vs JIS
    - Physiotherapy vs brace vs surgery

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[1] Aaronson NK, Muller M, Cohen PD, Essink-Bot ML, Fekkes M, Sanderman R,Sprangers MA, te Velde A, Verrips E. Translation, validation, and norming of theDutch language version of the SF-36 Health Survey in community and chronic diseasepopulations. J Clin Epidemiol. 1998;51:1055-68.

Results Demographics

Early-Onset scoliosis

99 of 114 patients completed the questionnaire.

Demographics

- Cobb angle at skeletal maturity: 31.2 ± 13°
- Mean age: 46.3 ± 3.5 years
- Follow-up: 23.9 ± 7.2 years
- 26 congenital & 73 JIS
- 20 physiotherapy, 48 brace, 31 surgery

Controls

1742 controls [1]

- Mean age: 47.6 ± 18.0 years

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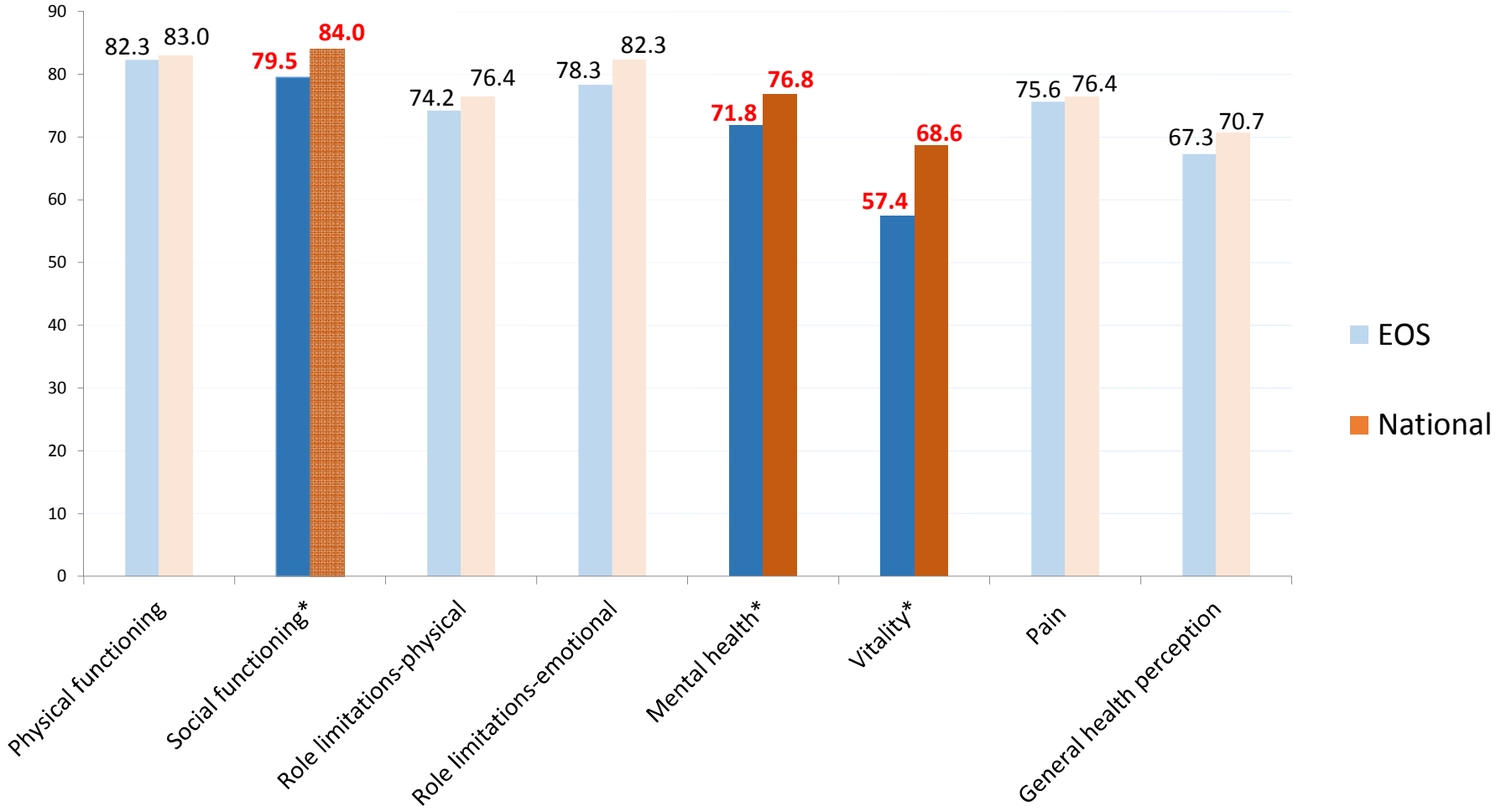
Results EOS vs National SF-36



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Results Secondary objectives

1

73 juvenile idiopathic scoliosis
28.8° ± 12.2

26 congenital scoliosis
38.5° ± 13.2; P=**0.002**

- **<u>No</u> difference in QoL between congenital & JIS**

2

20 physiotherapy
27.3° ± 16.5

48 brace
30.1° ± 12.9

31 surgery
35.3° ± 9.9

- **<u>No</u> differences in QoL between treatment groups**

Outcome:
SF-36 & SRS-22r

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Take Home Message

- **Despite treatment, EOS is a chronic disease**

- **Decreased QoL on 3 of the 4 psychosocial domains**
  - Social functioning
  - Mental health
  - Vitality

Thank you for your attention. J.L.Heemskerk@olvg.nl

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Results SF-36: EOS vs National

	EOS		National	
SF-36	**N=99**		**N=1742**	
Cobb angle	82.3	± 13.1	x	
Physical functioning	82.3	± 20.2	83.0	± 22.8
Social functioning	79.5	± 22.3	84.0	± 22.4
Role limitations-physical	74.2	± 26.1	76.4	± 36.3
Role limitations-emotional	78.3	± 25.3	82.3	± 32.9
Mental health	71.8	± 16.4	76.8	± 17.4
Vitality	57.4	± 16.3	68.6	± 19.3
Pain	75.6	± 23.0	76.4	± 36.3
General health perception	67.3	± 20.9	70.7	± 20.7

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Results JIS vs congenital

	JIS	Congenital	
SF-36	**N=73**	**N=29**	**p-value**
Cobb angle	28.8 ± 12.2	38.2 ± 13.1	0.420
Physical functioning	83.3 ± 19.1	79.6 ± 23.0	0.883
Social functioning	79.8 ± 20.5	79.0 ± 26.6	0.941
Role limitations-physical	74.3 ± 25.2	73.9 ± 28.8	0.474
Role limitations-emotional	77.2 ± 25.1	81.3 ± 25.9	0.778
Mental health	72.1 ± 15.6	71.1 ± 18.6	0.633
Vitality	57.0 ± 15.6	58.7 ± 18.3	0.223
Pain	77.4 ± 21.6	71.1 ± 26.0	0.915
General health perception	67.5 ± 21.5	67.0 ± 19.8	0.420
SRS-22r	**JIS**	**Congenital**	
Function	4.3 ± 0.6	4.2 ± 0.7	0.269
Pain	4.0 ± 0.7	3.8 ± 1.0	0.345
Self image	3.9 ± 0.6	3.7 ± 0.8	0.149
Mental health	3.7 ± 0.7	3.9 ± 0.8	0.385
Satisfaction with management	3.6 ± 0.8	3.4 ± 0.8	0.285
Total	4.0 ± 0.5	3.8 ± 0.6	0.398
	JIS	**Congenital**	
Pain incidence	54 (74.0%)	24 (82,8%)	0.442
ODI	10.1 ± 12.3	14.4 ± 18.0	0.247

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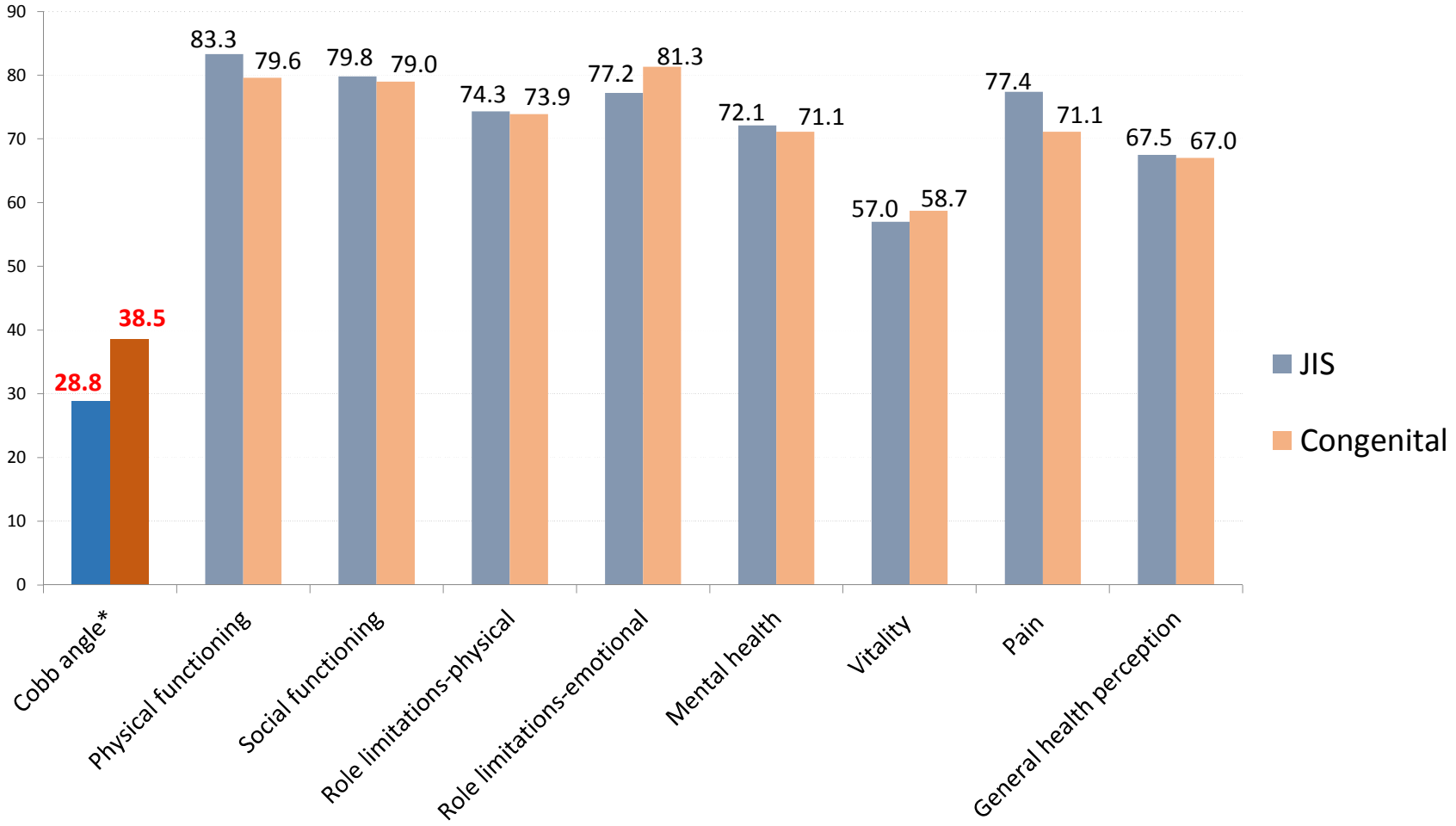
Results SF-36: JIS vs congenital



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Results Comparison treatments

Table 4 Comparison between treatment groups					
		Physiotherapy (N=20)	Only brace (N=48)	Surgery (N=31)	p-value†
Cobb angle (°)		27.3 ± 16.5	30.1 ± 12.9	35.3 ± 9.9	0.08
SF-36		Score	Score	Score	
Dimension	Physical functioning	79.3 ± 24.7	83.2 ± 18.8	82.9 ± 19.2	0.742
	Social functioning	77.3 ± 28.8	79.1 ± 20.6	81.9 ±19.9	0,751
	Role limitations-physical	70.5 ± 30.6	75.4 ± 24.4	75.0 ± 25.8	0,751
	Role limitations-emotional	73.9 ± 28.8	77.7 ± 25.2	82.5 ± 22.7	0.459
	Mental health	66.6 ± 20.4	72.0 ± 16.1	75.3 ± 12.9	0.163
	Vitality	51.4 ± 14.7	57.6 ± 16.4	61.5 ± 16.5	0.085
	Bodily Pain	67.1 ± 26.6	79.5 ± 20.4	75.9 ± 23.0	0.111
	General health perception	66.8 ± 19.9	67.6 ± 21.7	67.3 ± 21.0	0.989
SRS-22r total score		3.8 ± 0.5	4.0 ± 0.5	3.9 ± 0.6	0.238
Domain	Function	4.3 ± 0.6	4.4 ± 0.5	4.2 ± 0.8	0.432
	Pain	3.9 ±0.8	4.1 ± 0.7	3.7 ± 1.0	0.080
	Self-image	3.8 ± 0.7	3.9 ± 0.6	3.8 ± 0.7	0.609
	Mental health	3.5 ±0.9	3.8 ± 0.7	3.9 ± 0.6	0.103
	Satisfaction with management	3.3 ± 0.8	3.6 ± 0.8	3.6 ± 0.8	0.164
Back pain					
	Back pain prevalence	20 (87%)	36 (75%)	22 (71%)	0.371
	Oswestry Disability Index	14.5 ± 17.0	9.6 ±	11.6 ±	0.415