Short Form 36 (SF-36)

Assessment Overview

Assessment Area

ICF Domain:
Quality of Life

You Will Need

Length:
36 items

Scoring:
- Raw score is transformed to 0-100 scoring system (Algorithm available in the manual, which must be purchased)
- Score is norm-based; the mean score for the general population is 50 with a standard deviation of 10
- Higher score indicates better health status
- The SF-36 can also be scored using two norm-based summary scores, a physical and a mental component score (PCS & MCS).

Summary

The Medical Outcomes Study Short Form 36 (SF-36) is a generic health status measure that was introduced in 1992, and has been translated into various languages. The SF-36 assesses health-related quality of life using 8 domains, regarding either physical or mental functioning, both of which can also be summarized into a composite score: the physical (PCS) and mental (MCS) component summary. The SF-36 can be administered by interviewer or self-administered.

Availability

https://www.optum.com/optum-outcomes/what-we-do/health-surveys/sf-36v2-health-survey.html (Registration required)
Languages: 50+ languages

Assessment Interpretability

Minimal Clinically Important Difference

Not established in SCI, but for a sample of patients with osteoarthritis:
Worsening:
  Physical functioning = 5.3
  Bodily pain = 7.2
  PCS = 2.0
Improving:
  Physical functioning = 3.3
  Bodily pain = 7.8
  PCS = 2.0
(Angst et al., 2001; N=122, 71% female, mean age 65)

Statistical Error

Minimal Detectable Change:
  Physical functioning=21.4
  Role physical=14.7
  Bodily pain=7.4
  General health=7.9
  Vitality=4.6
  Social functioning=5.9
  Role emotional=4.1
  Mental health=7.4
  (Lin 2007; N=187, 151 male, traumatic SCI; mixed injury types, mean time since injury = 7.4 years)

Typical Values

Mean (SD) Scores:
  Physical functioning: 61.2(39.8)
  Role physical: 62.7(44.4)
  Bodily pain: 67.5(20.6)
  General health: 52.5(20.3)
  Vitality: 57.0(17.3)
  Social functioning: 71.8(22.2)
  Role emotional: 71.8(40.9)
  Mental health: 63.5(15.5)
  (Lin 2007; N=187, 151 male, traumatic SCI; mixed injury types, mean time since injury = 7.4 years)

Threshold Values:
Not established in SCI. But in the general population:
  Mental health (MH) score of ≤ 52
is “indicative of emotional problems probably of any psychiatric disorder”. MCS of ≤ 42 is “indicative of clinical depression”.

(Silveira et al 2005; N=545-555; Swedish women, aged 70-84; MH cut-off: sensitivity=58%, specificity=92%; MCS cut-off: sensitivity=71%, specificity=82%)

Measurement Properties

Validity – **Low to High**

**Moderate** correlation with Life Satisfaction Questionnaire 9 (LISAT-9):
Correlation = 0.531

**Low** correlation with Functional Independence Measure (FIM):
Correlation = 0.094

(van Leeuwen et al., 2012; N=145, 104 male, mixed injury types, 5 years post-discharge from inpatient rehabilitation)

**Low to High** correlation with WHO Quality of Life – BREF (WHOQOL-BREF):
Correlation = 0.24-0.78

(Lin 2007; N=187, 151 male, traumatic SCI; mixed injury types, mean time since injury = 7.4 years)

**Moderate** correlation with Spinal Cord Independence Measure (SCIM):
Correlation = 0.339

(SCIM Turkish ver.; Unalan et al., 2015; N=204, 144 male, mixed injury types, mean time since injury = 75.4 months)

**Low to Moderate** correlation with Beck Depression Inventory (BDI):
Correlation = 0.229-0.329

(Ataoglu et al., 2013; N=140, 104 male, mixed injury types, inpatient, mean time since injury = 25.2 months)

Reliability – **Moderate to High**

**Moderate to High** Inter-rater Reliability:
ICC = 0.52-0.98

**Moderate to High** Intra-rater Reliability:
ICC = 0.71-0.99

**Moderate to High** Internal Consistency:
α = 0.72-0.98

(Lin 2007; N=187, 151 male, traumatic SCI; mixed injury types, mean time since injury = 7.4 years)

Number of studies reporting reliability data: 6

Number of studies reporting validity data: 15
### Responsiveness

<table>
<thead>
<tr>
<th>Floor/Ceiling Effect:</th>
<th>Effect Size:</th>
<th>Number of studies reporting responsiveness data: 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of patients at lowest score:</td>
<td>Physical Functioning Domain: 0.36</td>
<td></td>
</tr>
<tr>
<td>Items 3a-3j: 29%</td>
<td>Physical Composite Score: 0.58</td>
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<tr>
<td>Items 3g, 3h, 3i: &gt;90%</td>
<td>Mental Composite Score: 0.71</td>
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(Lee et al., 2009; N=305, 83% male, SCI patients with neuropathic bladder, mixed injury types, mean 14 years post-SCI)

2 subscales >20%

Percentage of patients at highest score:

3 subscales >20%

(Lin 2007; N=187, 151 male, traumatic SCI; mixed injury types, mean time since injury = 7.4 years)