

Barthel Index (BI)

Assessment Overview

Assessment Area

ICF Domain:

Activity

Subcategory:

Self-Care

You Will Need

Length:

10 items – less than 15 minutes

Scoring:

Item scores are summed to give a total score ranging from 0 to 100 (0=fully dependent; 100= fully independent)

Summary

The Barthel Index is one of the oldest developed measures of basic activities for daily living. The index was originally developed to assess the severity of disability in personal care and mobility in stroke patients. It consists of 10 domains which include: bathing, grooming, feeding, dressing, toilet use, ascending/descending stairs, bowel management, bladder management, bed/wheelchair transfer, and surface level mobility.

Availability

Available for free here:

<http://www.strokecenter.org/wp-content/uploads/2011/08/barthel.pdf>

Assessment Interpretability

Minimal Clinically Important Difference

Not established in SCI

Statistical Error

Not established in SCI

Typical Values

Mean Barthel Index scores at admission/discharge (\pm SD):

	Admission BI	Discharge BI
CSCI	24.70 (29.05)	52.76 (31.84)
TSCI	19.35 (14.01)	56.30 (13.92)
LSCI	18.13 (21.81)	67.08 (22.31)

(Zhang et al. 2015, N=95 (77M, 18F); Average age (SD): 36.76 (14.65); 50.49% CSCI, 24.22% TSCI, 25.29% LSCI)

Measurement Properties

Validity – **Low** to **Moderate**

Moderate correlation with Care Dependency Scale:

$$r = 0.76$$

(Plantinga et al. 2006, N=154, 72 male, mean 54 years (M), 61 years (F))

Low correlation between Discharge BI and OIT, RIT and ALOS:

$$p > 0.05$$

(Zhang et al. 2015, N=95 (77M, 18F); Average age (SD): 36.76 (14.65); 50.49% CSCI, 24.22% TSCI, 25.29% LSCI)

Number of studies reporting validity data: 2

Reliability

Not established in SCI

Number of studies reporting reliability data: 0

Responsiveness

Floor/Ceiling Effect:

Items	Floor (%) / Ceiling (%)	
	Admission	Discharge
Bowels	17.7 / 64.6	7.6 / 85.7
Bladder	35.0 / 48.1	10.1 / 70.5
Grooming	23.6 / 76.4	5.9 / 94.1
Toileting	27.4 / 38.4	8.4 / 77.2
Feeding	5.9 / 71.3	1.7 / 89.5
Transfer	12.2 / 39.2	1.7 / 79.7
Mobility	18.6 / 23.2	1.3 / 61.6
Dressing	27.0 / 29.5	5.1 / 70.9
Stairs	73.4 / 9.7	31.2 / 38.4
Bathing	81.4 / 18.6	36.7 / 62.9

Effect Size:

Items	ES
Bowels	0.40
Bladder	0.52
Grooming	0.42
Toileting	0.72
Feeding	0.38
Transfer	0.70
Mobility	0.89
Dressing	0.84
Stairs	1.08
Bathing	1.16

Number of studies reporting responsiveness data:

Not established in SCI

Total score	2.5 / 5.5	0.0 / 24.1
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(O'Connor et al. 2004, N=237, 135 male, mean 52 years)

Total score	0.98
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(O'Connor et al. 2004, N=237, 135 male, mean 52 years)