Reviewer ID: Nicole Elfring/Brodie Sakakibara, John Zhu, Jeremy Mak, Gurmaan Gill, Gita Manhas

Type of Outcome Measure: WHOQOL-BREF			Total articles: 8

Author ID Year	Study Design	Setting	Population (sample size, age) and Group
Chan & Chan 2006	Cross-sectional; used Hong Kong version of WHOQOL-BREF	Hong Kong	N=31 (25 male, 6 female) Mean Age: 41.68±11.17 9 high tetraplegia (C1-C4) 8 low tetraplegia (C5-C8) 8 high paraplegia (T1-T9) 6 low paraplegia (T10-S)
Chapin 2004	Cross-sectional; concurrent and factorial validity explored	Canadian Paraplegic Association	N =132 Mean age = 45.82 Paraplegic SCI
Jang 2004	Cross-sectional validation study using multi-trait analysis and known-groups methods	Community and hospital, Taiwan	N = 111 (SCI) & 169 (non-SCI) SCI mean age = 40 ±13 years Non-SCI mean age = 37 ±12 years SCI participants: Complete tetraplegia = 23 Incomplete tetraplegia = 28 Complete paraplegia = 43 Incomplete paraplegia = 17
Lin et al. 2007	Cross-sectional; Telephone interviews to compare the psychometric performance of the WHOQOL with the SF-36	Subjects were identified from a nationwide registry of 809 traumatic SCI cases in Taiwan	N=187 (151 men) Mean Age = 50.3 years Mean time since injury = 7.4 years 48 incomplete tetraplegia 28 complete tetraplegia 73 incomplete paraplegia 38 complete paraplegia
Miller et al. 2008	Cross-sectional, confirmatory factor analysis	4 chapters (Alberta, Saskatchewan, Nova Scotia and Manitoba) of the Canadian Paraplegic Association	161 SCI subjects (77% male) mean age: 46.88±15.52 yrs
Suttiwong et al. 2013	Cross-sectional validation of Thai version of IPAQ	Thai community	N=139, 110M 29F Mean age 34.2±8.4 Mean time after injury 10.6±7.1yrs 49 quadriplegia, 90 paraplegia 137 (or more) were traumatic SCIs Wheelchair as primary mobility tool
Salvador-De La Barrera et al. 2018	Psychometric study for Spanish version of	Spinal Cord Injury Unit, Complejo	N=54, 44 male Mean (SD) age: 45.5 (13.2) years 20 cervical, 28 thoracic, 6 lumbar/sacral

	WHOQOL-BREF	Hospitalario Universitario de A Coruña, Galicia (Spain)	
Xavier de Franca et al. 2011	Cross-sectional study	Community in Brazil	N=47, 91.5% male Mean (SD) age: 42.95 (14.12) years Age range: 13-30 years: 23 31-48 years: 19 49-64 years: 5

1. RELIABILITY		
Author ID	**Internal Consistency**	**Test-retest, Inter-rater, Intra-rater**
Xavier de Franca et al. 2011	Cronbach's α: 0.73	
Salvador-De La Barrera et al. 2018	Cronbach's α: Overall: 0.887 Physical Health Domain: 0.731 Psychological Health Domain: 0.859 Social Relationships Domain: 0.68 Environment Domain: 0.65	Two-week test-retest reliability: ICC = 0.85
Jang 2004	Cronbach's α: Physical Health Domain: 0.75 Psychological Domain: 0.74 Social Relationship Domain: 0.54 Environment Domain: 0.78	No data available
Lin et al., 2007	Cronbach's α: Overall QOL & General Health: 0.79 Physical Health Domain: 0.87 Psychological Domain: 0.83 Social Relationship Domain: 0.75 Environment Domain: 0.86	10 subjects were contacted for re-assessment by same initial interviewer within 2 weeks. Test-retest (intra-rater) reliability: Overall QOL and General Health: ICC=0.84 Physical Health Domain: ICC=0.93 Psychological Domain: ICC=0.98 Social Relationship Domain: ICC=0.84 Environment Domain: ICC=0.89 10 subjects were contacted for re-assessment by different initial interviewer within 2 weeks. Test-retest (inter-rater) reliability: Overall QOL and General Health: ICC=0.63 Physical Health Domain: ICC=0.88 Psychological Health Domain: ICC=0.95 Social Relationship Domain: ICC=0.56 Environment Domain: ICC=0.80
Miller et al. 2008	Cronbach's α: Physical Health Domain: 0.82 Psychological Domain: 0.82 Social Relationship Domain: 0.74 Environment Domain: 0.80	No data available

2. VALIDITY	
Author ID	**Validity**
Jang Y 2004	Item scale correlation structure showed that all facets[A] had the highest correlations with the domain[B] to which they were originally assigned by the WHOQOL group. Analysis by t-test of the WHOQOL-Bref scale and subscales to examine differences between different groups completing the WHOQOL-Bref Overall QOL facet: t=4.94** Overall General Health facet: t=10.85** Physical Health Domain[B]: t=13.23** Psychological Domain: t=6.91** Social Relationship Domain: t=5.92** Environment Domain: t=2.31* **P<.001; *P=.022 [A]Facet defined as an aspect of life contributing to QOL, each item (26 total) represents one facet [B]Domain defined as a collection of related items, therefore also a collection of facets When controlling for gender, education, and employment status, all facet and domain scores were influenced by the SCI and non-SCI group except the environment domain (t=0.86, P=.389)
Chapin M. 2004	Sense of Well-Being Inventory (SWBI) and *WHOQOL-BREF Pearson correlations: SWBI Psychological and WHOQOL-BREF psychological domain: r=0.75 SWBI Physical and WHOQOL-BREF physical health domain: r=0.63 SWBI Family/social and WHOQOL-BREF social relationships domain: r=0.63 SWBI Financial/Environment and WHOQOL-BREF environment domain: r=0.59
Chan & Chan 2006	Correlations between the WHOQOL-BREF (HK) domains and the Chinese Version of Quebec User Evaluation with Assistive Technology (C-QUEST): C-QUEST Devices domain with WHOQOL-BREF: Overall QOL and General Health*: r=0.412, P<0.05 Physical Health Domain: r=0.508, P<0.05 Psychological Domain**: r=0.344, P=0.056 Social Relationships Domain: r=0.460, P<0.05 Environment Domain: r=0.567, P<0.05 The Device scores were positively and moderately correlated with the domain scores of the WHOQOL-BREF (HK), except the psychological health domain, which has a marginal correlation with the Device score. C-QUEST Services domain with WHOQOL-BREF: Overall QOL and General Health*: r=0.120, P>0.05 Physical Health Domain: r=0.307, P>0.05 Psychological Domain**: r=0.023, P>0.05 Social Relationships Domain: r=0.242, P>0.05 Environment Domain: r=0.333, P>0.05 The Service scores are not significantly associated with the score on the WHOQOL-BREF (HK), P>0.05. *2 items regarding overall QOL and general health **2 extra Hong Kong-specific items
Lin et al., 2007	Correlations between the WHOQOL-Bref subscales and the SF-36 subscales measuring the same constructs: The rho of the conceptually related domains between the WHOQOL-BREF and the SF-36 (overall QoL & general health-general health; Physical Capacity-Physical Functioning/Role physical/bodily pain;

	Psychological well-being-social functioning/role emotional/mental health; social relationships-social functioning) are higher than 0.4, with the exception of the WHOQOL-BREF's Psychological Well-Being and the SF-36's Role Emotional (rho = 0.37) The rho of the rating scale with the domains of the WHOQOL-BREF were all greater than 0.4 All $P<.0001$ The ability of the WHOQOL-BREF to discriminate among subgroups with respect to age, education, marital status, employment, time since injury, level of injury, and self-care ability was tested using the Mann-Whitney U-test. Overall, the WHOQOL-BREF domains significantly discriminated between subgroups in terms of 4 characteristics**. *Overall QOL and General Health, Physical Health Domain, Psychological Domain, Social Relationships Domain, Environment Domain **Marital status, employment status, level of injury, self-care ability (all domains $P\leq0.05$)

Miller et al. 2008	Income was positively related to WHOQOL-BREF domains:
	     Physical health (r=.24, $P<0.01$)
	     Social relationships (r=.24, $P<0.01$)
	     Environmental (r=.40, $P<0.01$)
	 Education was positively related to WHOQOL-BREF domains:
	     Physical health (r=.20, $P<0.05$)
	     Psychological (r=.19, $P<0.05$)
	     Social relationships (r=.18, $P<0.05$)
	     Environmental (r=.28, $P<0.01$)
	 Time since injury is positively related to WHOQOL-BREF domains:
	     Psychological (r=.23, $P<0.01$).
	
	 Self-esteem, as measured by the *Rosenberg Self-Esteem Scale*, is positively related to WHOQOL-BREF domains:
	     Physical health (r=.54, $P<0.01$)
	     Psychological (r=.62, $P<0.01$)
	     Social relationships (r=.41, $P<0.01$)
	     Environmental (r=.43, $P<0.01$)
	
	 Acceptance of disability, as measured by the *Acceptance of Disability Scale*, is positively related to WHOQOL-BREF domains:
	     Physical health (r=.72, $P<0.01$)
	     Psychological (r=.51, $P<0.01$)
	     Environmental (r=.46, $P<0.05$)

Suttiwong et al. 2013	Spearman's r of WHOQOL-BREF** (Thai) subscales with Impact on Participation and Autonomy Questionnaire (Thai, IPAQ) subdomains (N=30): WHOQOL Physical: Autonomy Indoors = -0.56* Family role = -0.55* Autonomy outdoors = -0.49* Social life and relationships = -0.39* Work and education = -0.37 WHOQOL Psychosocial: Autonomy Indoors = -0.46* Family role = -0.55* Autonomy outdoors = -0.59* Social life and relationships = -0.34 Work and education = -0.37*

	WHOQOL Social Relation: Autonomy Indoors = -0.44* Family role = -0.47* Autonomy outdoors = -0.65* Social life and relationships = -0.40* Work and education = -0.33 WHOQOL Environmental: Autonomy Indoors = -0.30 Family role = -0.36* Autonomy outdoors = -0.59* Social life and relationships = -0.33 Work and education = -0.35 *Indicates significant correlations. Statistical significance was not defined in article. **Raw domain scores instead of transformed domain scores used for correlations

3. RESPONSIVENESS

Author ID	
Lin et al. 2007	Subjects who are employed and who are unemployed after SCI (all employed before SCI) were interviewed for a second time to recall their health related QoL at the time of the injury: Effect Sizes of WHOQOL-BREF: Overall QOL and general health domain (combined for this study): 1.01 Physical Health Domain: 1.83 Psychological Health Domain: 0.78 Social Relationship Domain: 1.16 Environment Domain: 0.78

4. FLOOR/CEILING EFFECT

Author ID	Floor/ceiling effect
Jang et al. 2004	Floor Effect (number of patients scored minimally): n (%) Overall QOL facet: 6 (5.4) General Health facet: 10 (9.0) Physical Health Domain: 0 (0.0) Psychological Health Domain: 0 (0.0) Social Relationship Domain: 0 (0.0) Environment Domain: 0 (0.0) Ceiling Effect (number of patients scored maximally): n (%) Overall QOL facet: 1 (0.9) General Health facet: 2 (1.8) Physical Health Domain: 1 (0.9) Psychological Health Domain: 1 (0.9) Social Relationship Domain: 0 (0.0) Environment Domain: 0 (0.0)
Lin et al. 2007	Floor Effect (number of patients scored minimally): n (%) Overall QOL and general health Domain: 2 (1.3) Physical Health Domain:7 (0) Psychological Health Domain: 6 (0.0) Social Relationship Domain: 3 (0.0) Environment Domain: 8 (0.4) Ceiling Effect (number of patients scored maximally): n (%) Overall QOL and general health Domain: 2 (0.4)

	Physical Health Domain: 7 (0.0) Psychological Health Domain: 6 (0.0) Social Relationship Domain: 3 (0.4) Environment Domain: 8 (0.0)
Salvador-De La Barrera et al. 2018	The floor and ceiling effects are <2% in all domains Ceiling effect for perceived overall QOL question: 11.1% Ceiling effect for health status question: 9.3%

5. INTERPRETABILITY

Author ID	SEM, MDC, MCID, normative and published data
Salvador-De La Barrera et al. 2018	Mean (SD) scores: Perceived overall QOL question: 66.20 (20.69) Health status question: 56.48 (22.35) Physical domain: 61.55 (17.44) Psychological domain: 67.76 (19.33) Social relationship domain: 65.43 (21.37) Environment domain: 69.09 (12.90)

Jang et al. 2004

N = 111 SCI (mean age = 40 (13) years) & 169 non-SCI (mean age = 37 (12) years)

Facet and Domain:	Non-SCI	SCI
Overall QOL Item	13.92 (2.69)	12.14 (3.28)
General health Item	14.22 (2.72)	10.16 (3.27)
Physical health Domain	15.44 (1.84)	11.41 (2.84)
Psychological Domain	13.75 (2.12)	11.74 (2.73)
Social relationships Domain	14.25 (2.21)	12.54 (2.58)
Environment Domain	12.85 (2.13)	12.18 (2.55)

This study used a different scoring scheme, in which domain scores are the means of their respective item scores, which are then multiplied by 4. Domain scores ranges from 4 to 20.

Chan & Chan 2006

N=31 (25 male, 6 female) Mean Age: 41.68±11.17

Domain	Mean (SD) score:
Overall QOL/General Health Items	56.00 (16.57)
Physical health Domain	41.81 (17.89)
Psychological Domain	54.32 (18.63)
Social relationships Domain	55.90 (15.55)
Environment Domain	50.71 (13.09)

Lin et al. 2007

N=187 (151 men), Mean Age = 50.3 years, 121 incomplete, 111 paraplegia
Mean (SD) scores for each WHOQOL-Bref domain and SEM, MDC calculated from data in Lin et al. 2007:

Domain	Mean (SD) score:	SEM	MDC
Overall QOL/General Health Items	52.4 (19.4)	7.8	21.5
Physical health Domain	56.1 (19.6)	5.2	14.4
Psychological Domain	53.7 (16.9)	2.4	6.6
Social relationships Domain	58.9 (16.1)	6.4	17.9
Environment Domain	53.1 (15.3)	5.1	14.1