Last updated: May 8th, 2024

Research Summary – World Health Organization Quality of Life – Abbreviated Version (WHOQOL-BREF) – Quality of Life

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Xavier de Franca et al. (2011) Cross-sectional study	N=47, 91.5% male Mean (SD) age: 42.95 (14.12) years Age range: 13-30 years: 23		Internal Consistency Cronbach's α: 0.73	
Community in Brazil	31-48 years: 19 49-64 years: 5			
Miller et al. (2008) Cross-sectional, confirmatory factor analysis 4 chapters (Alberta, Saskatchewan, Nova Scotia and Manitoba) of the Canadian Paraplegic Association	N=161 SCI (77% male) Mean age: 46.88 ± 15.52 years	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)	Internal Consistency Cronbach's α: Physical Health Domain: 0.82 Psychological Domain: 0.82 Social Relationship Domain: 0.74 Environment Domain: 0.80	

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		Psychological (r=.19, P<0.05)		

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		Environmental (<i>r</i> =.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)		
<u>Lin et al. (2007)</u>	N=187 (151 men)	Correlations between	Internal Consistency	Responsiveness
Cross-sectional;	Mean Age = 50.3 years Mean time since injury	the WHOQOL-Bref subscales and the SF-	Cronbach's α: Overall QOL &	Subjects who are employed and who
Telephone	= 7.4 years	36 subscales	General Health: 0.79	are unemployed after
interviews to		measuring the same	Physical Health	SCI (all employed
compare the	48 incomplete	constructs:	Domain: 0.87	before SCI) were
psychometric	tetraplegia	The rho of the	Psychological	interviewed for a
performance of	28 complete	conceptually related	Domain: 0.83	second time to recall
the WHOQOL	tetraplegia	domains between the	Social Relationship	their health related
with the SF-36	73 incomplete	WHOQOL-BREF and	Domain: 0.75	QoL at the time of the
	paraplegia	the SF-36 (overall QoL		injury:

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Subjects were identified from a nationwide registry of 809 traumatic SCI cases in Taiwan	38 complete paraplegia	& 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	Environment Domain: 0.86 Test-retest, Interrater, Intra-rater 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	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 Interpretability 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: see table 1 below

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		The ability of the	different initial	Floor Effect (number
		WHOQOL-BREF to	interviewer within 2	of patients scored
		discriminate among	weeks.	minimally): n (%)
		subgroups with	Test-retest (inter-	Overall QOL and
		respect to age,	rater) reliability:	general health
		education, marital	Overall QOL and	Domain: 2 (1.3)
		status, employment,	General Health:	Physical Health
		time since injury, level	ICC=0.63	Domain:7 (0)
		of injury, and self-care	Physical Health	Psychological Health
		ability was tested	Domain: ICC=0.88	Domain: 6 (0.0)
		using the Mann-	Psychological Health Domain: ICC=0.95	Social Relationship
		Whitney U-test. Overall, the	Social Relationship	Domain: 3 (0.0) Environment
		WHOQOL-BREF	Domain: ICC=0.56	Domain: 8 (0.4)
		domains significantly	Environment	
		discriminated	Domain: ICC=0.80	Ceiling Effect
		between subgroups	Borrian i. ree 6.66	(number of patients
		in terms of 4		scored maximally): n
		characteristics**.		(%)
				Overall QOL and
		*Overall QOL and		general health
		General Health,		Domain: 2 (0.4)
		Physical Health		Physical Health
		Domain,		Domain: 7 (0.0)
		Psychological		Psychological Health
		Domain, Social		Domain: 6 (0.0)
		Relationships		Social Relationship
				Domain: 3 (0.4)

Demographics and Injury Characteristics of Sample	Validity		Reliability	Responsiveness Interpretability
	**Marital status, employment st level of injury, so care ability (all	atus, elf-		Environment Domain: 8 (0.0)
Table 1	GOTTIGITIO 1 20100	-1		
Domain	Mean (SD)	SEM	MDC	
	score:			
Overall QOL/General Health Items	52.4 (19.4)	7.8	21.5	
Physical health Domain	56.1 (19.6)	5.2	14.4	
	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	
N=132		_		
Medil age - 45.02	5 (,		
Paraplegic SCI	Pearson correla SWBI	tions:		
	WHOQOL-BREI psychological			
	Injury Characteristics of Sample Table 1 Domain Overall QOL/General Health Items Physical health Domain Psychological Domain Social relationships Domain Environment Domain N=132 Mean age = 45.82	Injury Characteristics of SampleDomain, Environment D **Marital status, employment st level of injury, sc care ability (all domains P≤0.05Table 1Mean (SD) score:Overall QOL/General Health Items52.4 (19.4)Physical health Domain56.1 (19.6)Psychological Domain Social relationships Domain53.7 (16.9)Environment Domain53.1 (15.3)N=132 Mean age = 45.82Sense of Well-B Inventory (SWB *WHOQOL-BRE SWBI Psychological a WHOQOL-BRE WHOQOL-BRE	Injury Characteristics of Sample Domain, Environment Domain **Marital status, employment status, level of injury, self- care ability (all domains P≤0.05) Table 1 Mean (SD) score: SEM score: Overall QOL/General Health Items 52.4 (19.4) 7.8 Physical health Domain 56.1 (19.6) 5.2 Psychological Domain 53.7 (16.9) 2.4 Social relationships Domain 58.9 (16.1) 6.4 Environment Domain 53.1 (15.3) 5.1 N=132 Mean age = 45.82 Sense of Well-Being Inventory (SWBI) and *WHOQOL-BREF Pearson correlations: SWBI Psychological and WHOQOL-BREF psychological	Injury Characteristics of Sample Validity Reliability Domain, Environment Domain **Marital status, employment status, level of injury, self-care ability (all domains P≤0.05) **Marital status, employment status, level of injury, self-care ability (all domains P≤0.05) Table 1 Mean (SD) SEM score: MDC Overall QOL/General Health Items 52.4 (19.4) 7.8 21.5 21.5 Physical health Domain 56.1 (19.6) 5.2 14.4 14.4 Psychological Domain 53.7 (16.9) 2.4 6.6 6.6 Social relationships Domain 58.9 (16.1) 6.4 17.9 17.9 Environment Domain 53.1 (15.3) 5.1 14.1 14.1 N=132 Mean age = 45.82 Sense of Well-Being Inventory (SWBI) and *WHOQOL-BREF Pearson correlations: SWBI Psychological and WHOQOL-BREF psychological

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Canadian Paraplegic Association		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/Environmen t and WHOQOL-BREF environment domain: r=0.59		
Jang et al. (2004) Cross-sectional validation study using multi-trait analysis and known-groups methods	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	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	Internal Consistency Cronbach's α: Physical Health Domain: 0.75 Psychological Domain: 0.74 Social Relationship Domain: 0.54 Environment Domain: 0.78	Interpretability N = 111 SCI (mean age = 40 (13) years) & 169 non-SCI (mean age = 37 (12) years) See table 3 below This study used a different scoring scheme, in which
Community and hospital, Taiwan	tetraplegia = 28 Complete paraplegia = 43	the WHOQOL-Bref scale and subscales to examine		domain scores are the means of their respective item

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	Incomplete paraplegia	differences between		scores, which are
	= 17	different groups		then multiplied by 4.
		completing the		Domain scores
		WHOQOL-Bref		ranges from 4 to 20.
		Overall QOL facet:		_
		t=4.94**		Floor/ Ceiling Effect
		Overall General		Floor Effect (number
		Health facet: t=10.85**		of patients scored
		Physical Health		minimally): n (%)
		Domain ^B : t=13.23**		Overall QOL facet: 6
		Psychological		(5.4)
		Domain: t=6.91**		General Health facet:
		Social Relationship Domain: t=5.92**		10 (9.0) Physical Health
		Environment		Domain: 0 (0.0)
		Domain: t=2.31*		Psychological Health
		**P<.001; *P=.022		Domain: 0 (0.0)
		1 3.001, 1 3.022		Social Relationship
		^A Facet defined as an		Domain: 0 (0.0)
		aspect of life		Environment
		contributing to QOL,		Domain: 0 (0.0)
		each item (26 total)		,
		represents one facet		Ceiling Effect
		^B Domain defined as a		(number of patients
		collection of related		scored maximally): n
		items, therefore also a		(%)
		collection of facets		Overall QOL facet: 1
				(0.9)

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
	ge an sta do int an ex er	then controlling for ender, education, and employment atus, all facet and omain scores were fluenced by the SCI and non-SCI group scept the avironment domain e0.86, P=.389)		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)
	Table 3			
	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 Doma	` '	12.54 (2.58)	
	Environment Domain	12.85 (2.13)	12.18 (2.55)	

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Research Summary – World Health Organization Quality of Life – Abbreviated Version (WHOQOL-BREF) – Quality of Life – Cross-cultural Validation Studies

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Chang et al. (2022) Cross-sectional Study to validate the WHOQOL Scales (WHOQOL- BREF and WHOQOL-DIS module) in China Shanghai Sunshine Rehabilitation Center	N=62 in-patient participants with SCI, Age: 18-70 years Duration of injury: ≥ 6 months Exclusion criteria: adults with cognitive impairment or on their second admission for rehabilitation	WHOQOL-BREF domains and WHOQOL-DIS scores showed the predicted pattern among a priori known groups	Internal Consistency Cronbach's α: >0.70 for three domains except the social domain (0.59) Test-retest - Good for the two general items and 3 domains - Correlation coefficients of the social domain (0.67) and those of three domains (0.63–0.67) were below the acceptable level (<0.7) Inter-rater reliability was not performed in this study.	
Salvador-De La Barrera et al. (2018)	N=54, 44 male Mean (SD) age: 45.5 (13.2) years		Internal Consistency Cronbach's α: Overall: 0.887	Interpretability Mean (SD) scores:

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Psychometric study for Spanish version of WHOQOL-BREF Spinal Cord Injury Unit, Complejo Hospitalario Universitario de A Coruña, Galicia (Spain)	20 cervical, 28 thoracic, 6 lumbar/sacral		Physical Health Domain: 0.731 Psychological Health Domain: 0.859 Social Relationships Domain: 0.68 Environment Domain: 0.65 Test-retest, Interrater, Intra-rater Two-week test-retest reliability: ICC = 0.85	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) 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%
Suttiwong et al. (2013)	N=139, 110M 29F Mean age 34.2±8.4	Spearman's r of WHOQOL-BREF** (Thai) subscales with		94636011. 3.370

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Cross-sectional validation of Thai version of IPAQ Thai community	Mean time after injury 10.6±7.1yrs 49 quadriplegia, 90 paraplegia 137 (or more) were traumatic SCIs Wheelchair as primary mobility tool	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 = - 0.46* Family role = -0.55* Autonomy outdoors = - 0.59* Social life and relationships = -0.34		

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		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		

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		*Indicates signif	icant		
		correlations. Statistical			
		significance was	s not		
		defined in article			
		**Raw domain s	cores		
		instead of			
		transformed do scores used for	main		
		correlations			
	Table 1				
	Domain	Mean (SD)	SEM	MDC	
		score:			
	Overall QOL/General Health Items	52.4 (19.4)	7.8	21.5	
	Physical health	56.1 (19.6)	5.2	14.4	
	Domain	30.1 (13.0)	3.2	1 1. 1	
	Psychological Domain	53.7 (16.9)	2.4	6.6	
	Social relationships	58.9 (16.1)	6.4	17.9	
	Domain	[7.7	
	Environment Domain	53.1 (15.3)	5.1	14.1	
<u>Chan & Chan</u> (2006)	N=31 (25 male, 6 female)	Correlations bet			Interpretability N=31 (25 male, 6
	Mean Age: 41.68±11.17	the WHOQOL-BREF (HK) domains and the			female) Mean Age:
Cross-sectional;		Chinese Version			41.68±11.17
used Hong	9 high tetraplegia (C1-	Quebec User			See table 2 below
ascariong	C4)	Evaluation with			

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Kong version of WHOQOL-BREF Hong Kong	8 low tetraplegia (C5-C8) 8 high paraplegia (T1-T9) 6 low paraplegia (T10-S)	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),		

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		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		

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		WHOQOL-BREF (HK),		
		P>0.05.		
		*2 items regarding		
		overall QOL and		
		general health		
		**2 extra Hong Kong-		
		specific items		
	Table 2	(00)		
	Domain	Mean (SD)		
		score:		
	Overall QOL/General	56.00 (16.57)		
	Health Items			
	Physical health	41.81 (17.89)		
	Domain			
	Psychological Domain	54.32 (18.63)		
	Social relationships	55.90 (15.55)		
	Domain			
	Environment Domain	50.71 (13.09)		