

Supplemental Files.

Supplemental Table 1. Detailed search strategy

Search of the COSMIN systematic review database (<https://database.cosmin.nl/>)

Date of search: August 21-23, 2021

Domain and measures	Search string	# of records returned
<i>Pain severity: “Children (0-18 years) AND (name of instrument OR pain)”</i>		
0-10 Numerical Rating Scale	Children (0-18) AND “PI-NRS - Pain Intensity Numerical Rating Scale”	18
PROMIS® Pediatric Pain Intensity	Children (0-18) AND “PROMIS Pediatric Pain Intensity”	0
Graded Chronic Pain Scale	Children (0-18) AND “GCPS - Graded Chronic Pain Scale”	2
Brief Pain Inventory	Children (0-18) AND (Brief Pain Inventory OR BPI)	15
Faces Pain Scale-Revised	Children (0-18) AND “FPS - Faces Pain Scale (versions: FPS-R; FPS-6; FPS-7; FPS-R; FPS-R; FPS-Smartphone)”	11
Visual Analogue Scale	Children (0-18) AND “Visual Analogue Scale”	53
Varni Thompson Pediatric Pain Questionnaire	Children (0-18) AND “Varni Thompson Pediatric Pain Questionnaire”	1
General search	Children (0-18) AND pain	81
<i>Pain-related interference with daily living: “Children (0-18 years) AND (name of instrument OR pain)”</i>		
PROMIS® Pediatric Pain Interference	Children (0-18) AND PROMIS pain interference	11
Functional Disability Inventory	Children (0-18) AND “FDI - Functional Disability Inventory”	41
Bath Adolescent Pain Questionnaire	Children (0-18) AND “BAPQ - Bath Adolescent Pain Questionnaire (versions: BAPQ-parents; BAPQ-C - BAPQ-Computerized)”	2
Child Activity Limitations Interview	Children (0-18) AND “CALI - Child Activity Limitations Interview”	4
Brief Pain Inventory	Children (0-18) AND (Brief Pain Inventory OR BPI)	15
General search	Children (0-18) AND pain	81
<i>Overall well-being: “Children (0-18 years) AND name of instrument AND pain”</i>		
PedQL™ Generic Core	Children (0-18) AND Pediatric Quality of Life AND pain	26
PROMIS® pediatric measures	Children (0-18) AND PROMIS AND pain	8

KIDSCREEN	Children (0-18) AND KIDSCREEN AND pain	5
General search	Children (0-18) AND (quality of life OR well-being) AND pain	37
<i>Emotional functioning: “Children (0-18 years) AND name of instrument AND pain”</i>		
PROMIS® pediatric measures	Children (0-18) AND PROMIS AND pain	8
Revised Children's Anxiety and Depression Scale	Children (0-18) AND “RCADS - Revised Children’s Anxiety and Depression Scale”	3
Bath Adolescent Pain Questionnaire	Children (0-18) AND “BAPQ - Bath Adolescent Pain Questionnaire (versions: BAPQ-parents; BAPQ-C - BAPQ-Computerized)”	2
Child Behavior Checklist	Children (0-18) AND Child Behavior Checklist AND pain	5
Patient Health Questionnaire-9	Children (0-18) AND “PHQ - Patient Health Questionnaire (versions: PHQ-2; PHQ-4; PHQ-9; PHQ-9 short; aPHQ-9; PHQ-A; PHQ-22; PHQ-8; PHQ-15)” AND pain	3
PedQL™ related measures	Children (0-18) AND Pediatric Quality of Life AND pain	26
Behavior Assessment System for Children	Children (0-18) AND “BASC - Behavior Assessment Scale for Children (versions: BASC-1; BASC-2; BASC-3; BASC-SRP - BASC-Self-Report of Personality; BASC-TRS = BASC-Teacher Rating Scale)” AND pain	4
Child Depression Inventory	Children (0-18) AND (CDI - Children's Depression Inventory) AND pain	14
Generalized Anxiety Disorder-7	Children (0-18) AND Generalised Anxiety Disorder AND pain	1
Multidimensional Anxiety Scale for Children	Children (0-18) AND “MASC - Multidimensional Anxiety Scale for Children” AND pain	6
Pain Catastrophizing Scale for Children	Children (0-18) AND “PCS - Pain Catastrophizing Scale (versions: PCS-Parent; PCS-Child)”	3
Revised Children's Manifest Anxiety Scale	Children (0-18) AND “CMAS - Children’s Manifest Anxiety Scale (versions: RCMAS - Revised CMAS)” AND pain	3
Screen for Child Anxiety Related Disorders	Children (0-18) AND Screen for Child Anxiety Related Disorders AND pain	7
<i>Physical functioning: “Children (0-18 years) AND name of instrument AND pain”</i>		
PROMIS® pediatric measures	Children (0-18) AND PROMIS AND pain	8
Functional Disability Inventory	Children (0-18) AND “FDI - Functional Disability Inventory” AND pain	13
Bath Adolescent Pain Questionnaire	Children (0-18) AND “BAPQ - Bath Adolescent Pain Questionnaire (versions:	2

	BAPQ-parents; BAPQ-C - BAPQ-Computerized)	
Child Activity Limitations Interview	Children (0-18) AND "CALI - Child Activity Limitations Interview"	4
PedQL™ related measures	Children (0-18) AND Pediatric Quality of Life AND pain	26
<i>Sleep: "Children (0-18 years) AND name of instrument"</i>		
Adolescent Sleep Wake Scale	Children (0-18) AND Adolescent Sleep Wake Scale	18
PROMIS® Pediatric Sleep Disturbance	Children (0-18) AND PROMIS Sleep Disturbance	8
PROMIS® Pediatric Sleep-related Impairment	Children (0-18) AND PROMIS Sleep Impairment	4
Insomnia Severity Index	Children (0-18) AND "ISI - Insomnia Severity Index"	5
Pediatric Insomnia Severity Index	Children (0-18) AND "ISI - Insomnia Severity Index (versions: PISI - Pediatric ISI)"	3
Pittsburg Sleep Quality Index	Children (0-18) AND Pittsburg Sleep Quality Index	7
Adolescent Sleep Hygiene Scale	Children (0-18) AND Adolescent Sleep Hygiene Scale	4

Supplemental Table 2. Exclusion rationales for the initial measure evaluation

Domain	Measures excluded	Reason for exclusion
Pain severity	Graded Chronic Pain Scale (GCPS) [21]	Developed among adult populations and minimally validated in pediatric populations
	Brief Pain Inventory (BPI) [8]	Developed among adult populations and minimally validated in pediatric populations
	Varni Thompson Pediatric Pain Questionnaire [20]	Less commonly used and least favored by experts
Pain-related interference with daily living	Bath Adolescent Pain Questionnaire (BAPQ) [11]	A multidimensional measure with concept overlap with other domains (e.g., emotional functioning, physical functioning)
	Brief Pain Inventory (BPI) [8]	Developed among adult populations and minimally validated in pediatric populations
Overall well-being	PedsQL™ General Core [19]	Conceptual overlap with physical functioning and emotional functioning
	PROMIS® Pediatric Profile 25 v.2.0	A combination of selected measures of physical, emotional, and social functioning
	KIDSCREEN [16]	Lengthy and least favored by experts
Emotional functioning	Revised Children's Anxiety and Depression Scale (RCADS) [7]	Lengthy
	Child Behavior Checklist (CBCL) [1]	Lengthy
	Behavior Assessment System for Children (BASC) [18]	Lengthy
	Multidimensional Anxiety Scale for Children (MASC) [13]	Lengthy
	Revised Children's Manifest Anxiety Scale (RCMAS) [17]	Lengthy
	Screen for Child Anxiety Related Disorders (SCARED) [3]	Lengthy
	Bath Adolescent Pain Questionnaire (BAPQ) [11]	A multidimensional measure with lower precision for single dimensions of depressive symptoms and anxiety
	PedsQL™ Generic Core Scales - Psychosocial Summary Score	A combination of the emotional, social, and school functioning subscales
	PedsQL™ Generic Core Scales – Emotional Functioning Scale	Less commonly used as a standalone emotional functioning scale, with insufficient internal consistency, and less favored by experts
	Pain Catastrophizing Scale for Children (PCS-C) [9]	Conceptual distinction with emotional functioning
Physical functioning	Functional Disability Inventory (FDI) [22]	Conceptual overlap with the domain of pain-related interference with daily living

Sleep quality	Child Activity Limitations Interview [15]	Conceptual overlap with the domain of pain-related interference with daily living
	PROMIS® Pediatric Upper Extremity Function [10]	Too specific and least favored by experts
	Adolescent Insomnia Questionnaire [4]	Newly developed, and with an exclusive focus on insomnia
	Insomnia Severity Index (ISI) [2]	Originally developed among the adult population and only focused on insomnia
	Pittsburg Sleep Quality Index (PSQI) [5]	Developed among the adult population and minimally validated among pediatric chronic pain populations
	Adolescent Sleep Hygiene Scale (ASHS) [12]	Only measures sleep hygiene
	Children's Sleep Habits Questionnaire (CSHQ) [14]	Measures sleep habits rather than sleep quality
	Pediatric Sleep Questionnaire (PSQ) [6]	A screening measure for sleep disorders rather than a measure of sleep quality

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