

Supplementary File 3: Description of Control Groups and Outcomes of Included Studies

Study	Physical Symptom	Therapists delivering intervention	Study Type	Control group: controlling for (time, attention, therapist time)	Primary Outcome Measure(s) (<i>Mental health measures boded and italicised</i>)	Secondary Outcome Measure (s) (<i>Mental health measures boded and italicised</i>)	n (% female)	Participant Age (M; SD)	Outcome Time points	Country
Bussone et al. (1988)	Tension-type headache	NR	RCT 2 arms	Relaxation placebo (Y,Y,Y)	1.Headache diary (PTI)	1. STAIC	30 (50%)	Treat (M=11.1, SD=2.6) Ctrl (M=13, SD=1.5)	Baseline 1month 3month 6month 12month	USA
Chalder, Deary, Husain & Walwyn, 2010 *2012 Follow up study included	Chronic Fatigue Syndrome	Trained Cognitive behavioural therapists	RCT 2 arms	Psycho-education (N,Y,N)	1. School attendance	1.Chalder fatigue scale 2. SF-36 3. WSAS 4. SDQ 5. GOS	63 (68%)	11-18	Baseline 6 month 24 month for SDQ Baseline 3month 6month 12month for primary outcomes.	UK
Crawley et al. (2017)	Chronic Fatigue Syndrome	Various LP trained and supervised professionals including doctors, psychologists physiotherapists and	RCT 2 arms	Specialist Medical Care (N,N,N)	1. SF-36	1. School Attendance 2. CFS 3. QUALYs 4.Pain VAS 5. HADS 6.SCAS 7. WPAI:GHQ	100 (76%)	(M=14.6, SD=1.6)	Baseline 3 month 6 month 12 month	UK

		occupational therapists								
Griffiths et al. (1996)	Chronic Headache	Postgraduate clinical psychology student in her final year of studies	RCT 3 arms	Self-monitoring (N, N, N)	1. Headache diary	1. CMAS; 2. CDS 3. SEQ-C 4. Expectancy for change 5. CHAS	32 (50%)	Clinic 11.4 (0.58) Home 11.5 (0.58) WL 11.1 (0.58)	Baseline Post-treatment 9 week groups 1 and 2, not for SM group	Australia
Hickman et al. 2015	Chronic Daily Headache	Nurse Practitioner with cognitive behavioural training	RCT 2 arms	Headache Education (YYY)	1. BYI-II 2. Healthy Lifestyle Beliefs Scale 3. PSS 4. PedMIDAS 5. PPPI		32 (72%)	13-17 (M=15.09; SD=1.1)	Baseline Post Intervention	USA
Kashikar-Zuck et al. (2005)	Juvenile Primary Fibromyalgia	Doctoral level psychologists trained in the intervention	RCT 2 arms	Self-monitoring (N,N,N)	1.FDI 2.Pain VAS 3.CDI	1. PCQ 2. Tender point examination	30 (100%)	13-17 (M=15.83, SD=1.26)	Baseline Post-treatment Post-crossover of treatment	USA
Kashikar-Zuck, Ting, Arnold, Bean, Powers, Graham, et al. (2012)	Juvenile Fibromyalgia	Doctoral level psychologists in the intervention	RCT 2 arms	FM Education (YYY)	1. FDI	1. Pain Severity (VAS) 2. CDI 3. Tender point exam 4. PedsQL 5. Sleep quality VAS	114 (92%)	11-18 (M=15; SD=1.8)	Baseline Post-treatment 6 month	USA

Law et al. (2015)	Headache	A PhD-level psychology postdoctoral fellow with experience delivering face-to-face CBT for pain management to youth with chronic pain and their families	RCT 2 arms	Specialist Headache Treatment (N,N,N)	1. Headache diary	1. Child Activity Limitations Interview-21 (CALI) 2. RCMAS-2 3. CDI 4. ARCS (Protect subscale) 5. Sleep diary using smartwatch	83 adolescents (82%)	11–17 years (M = 14.5, SD = 1.7)	Baseline Post-treatment 3 month	USA
Levy et al (2010)	Functional Abdominal Pain	Trained therapists (Master's degree)	RCT 2 arms	Educational Intervention (Y,Y,Y)	1. FPS-R 2. CSI 3. FDI	1. CDI 2. MASC 3. ARCS (Protectiveness)	200 (94%)	7-17 (M=NR; SD=2.5)	Baseline 1 month 3 month 6 month	USA
McGrath et al. (1992)	Migraine	'Trained therapist'	RCT 3 arms	CBT (Y,Y,Y) Assessment & monitoring (Y,Y,Y)	Total Headache Index	Poznanski Depression Scale (1979)	87 (72%)	11-18 (M=NR; SD=1.75)	Baseline 1 month 3 month 12 month	Canada
Palermo et al. (2009)	Chronic Pain	postdoctoral psychologist with CBT experience	RCT 2 arms	Wait list with medical care (N,N,N)	1. CALI 2. Pain Diary 3. ARCS 4. TEI	1. RCADS (Depression subscale only)	48 (73%)	11-17 (M=14.8, SD=2.0)	Baseline Post treatment 3 month	USA
Palermo et al. (2016)	Chronic Pain	5 study coaches, one had a master's degree and 4 were PhD level psychology postdoctoral	RCT 2 arms	Internet delivered education (Y,Y,N)	1. Child Activity Limitations Interview-21 (CALI)	1. Pain Diary (intensity) 2. BAPQ 3. ASWS 4. ARCS	273 (75%)	11-17 years (M = 14.7, SD = 1.6)	Baseline Post-treatment 6 month	USA

		fellows. All study coaches had previous experience in CBT.								
Scharff et al. (2002)	Migraine	NR	RCT 3 arms	1. Hand-cooling (Y,Y,Y) 2. Waitlist control (N,N,N)	1. Headache Pain	1. Child Depression Inventory (CDI) 2. STAIC 3. BDI (parent) 4. STAI (parent)	36 (67%)	7-17 (M=12.8; SD= 2.4)	Post treatment 3 month 6 month 12 month	USA
Schurman et al (2010)	Functional Dyspepsia Associated with Duodenal Eosinophilia	Registered nurses with professional biofeedback certification	RCT 2 arms	SMC (N,N,N)	1. Pain Diary 2. FPS-R 3. Global Response Assessment	1. BASC (somatisation, depression & Anxiety subscales) 2. PedsQL 4.0	20 (65%)	8-17 (M=12.2; SD=2.8)	Baseline Post-treatment	USA
Trautman n & Kroner-Herwig (2010)	Recurrent Headache	Graduate students of clinical psychology.	RCT 3 arms	1. Internet based relaxation: (Y,Y,N) 2. Education: (Y,Y,Y)	1. Headache diary	1. PCS-C 2. CDI 3. KINDL (QoL) 4. SDQ 5. Patient-therapist Alliance	66 (55%)	Age range: NR (M=12.7; SD=2.2)	Baseline Post-treatment 6 month	Germany
van der Veek, Derkx, Benninga, Boer, de Haan (2013)	functional abdominal pain	CBT: masters students in psychology / psychologists IMC: Paediatrician or Paediatric Gastroenterologist	RCT 2 arms	Intensive (6 sessions) medical treatment (IMC) (Y, Y)	1. API 2. Pain Diary	1. CSI 2. FDI 3. RCADS 4. KIDSCREEN-27 (QoL)	104 (72.2)	7-18 (M=11.9; SD 2.77)	Baseline Post-treatment 6 month 12 month	Netherlands

Warner et al., (2011)	Functional Somatic Complaints (nausea, IBS, RAP; Chest Pain)	PhD level Psychologists trained in CBT	RCT 2 arms	Wait list control (N,N,N)	1. ADIS-IV-CP 2. CSR – independent evaluator 3. Pain diary 4. CSI	1. CGAS 2. CGI-I	40 (65%)	8-16 M= 12.4 (SD= 2.6)	Baseline Post-treatment 3 month (intervention group only)	USA
Wicksell et al. (2009)	Longstanding Pain	Two psychologists trained in CBT	RCT 2 arms	MDT care with amitriptyline (N,N,N)	1. FDI 2. MPI 3. PAIRS 4. SF-36	1. CES-DC 2. VAS: Pain Intensity 3. PCS 4. Pain-related Discomfort	32 (78%)	10.8 - 18.1 years (M=14.8, SD= 2.4).	Baseline Post-treatment 3.5 month 6.8 month	Sweden

NR: Not reported

N: No

Y: Yes

BAPQ: Bath Adolescent Pain Questionnaire

FDI: Functional Disability Inventory

API: Abdominal Pain Index

CSI: Child Somatisation Inventory

ARCS: Adult Responses to Children Symptoms

MPI: Multidisciplinary pain Inventory

CSR: Clinical Severity Ratings

PAIRS: Pain and Impairment Relationship Scale

CMAS: Children's Manifest Anxiety Scale (Castaneda, McCandless & Palermo, 1956), revised by Reynolds & Richmond (1978)

CES-DC: Centre for Epidemiological studies Depression Scale for Children

STAIC: The State-Trait Anxiety Inventory for Children

PTI: Pain Total Index

CDS: Children's Depression Scale (Lang & Tisher, 1983)

SEQ-C: Self Efficacy Questionnaire for children

BYI-II: Beck Youth Inventory, 2nd Edition

PSS: Perceived Stress Scale

ASWS: Adolescent Sleep Wake Scale

CHAS: Children's Headache Assessment Scale (assesses coping responses Budd & Kedesdy, 1989)

PCS-C: Pain Catastrophizing Scale for Children

PPPI: Parent Perception of Pain Interference

CFS: Chalder fatigue scale (Chalder et al. 1993).

WSAS: Work and Social Adjustment Scale (Mundt et al. 2002).

PCQ: Pain Coping Questionnaire

CALI: Child Activity Limitations Interview

TEI: Treatment Evaluation Inventory

FPS-R: Faces Pain Scale-Revised

GOS: Global Outcome Scale

VAS: Visual Analog Scale

PedsQL: Paediatric Quality of Life Scale

SF-36: Short-Form Health Survey Physical Function Scale

QUALYs: Quality Adjusted Life Years

HADS: Hospital Anxiety Scale

SCAS: Spence Anxiety Scale

WPAI:GHQ: Work Productivity and Impairment Scale; General Health Questionnaire

Revised Children's Manifest Anxiety Scale, Second Edition

HHI: Helping for Health Inventory