Author Year Country Research Design PEDro Score Total Sample Size	Methods	Outcome
Burke et al., (2019) Ireland RCT PEDro=8 N <sub>Initial</sub> =69 N <sub>Final</sub> =57	Population: Mean age=52±13 yr; Gender: males=52, females=17; Time since injury=16±12.1 yr; Level of injury: C=17, T=30; L=14, Not reported=8; Severity of injury: AIS A=4, B=2, C=3, D=4, Not reported=55.  Intervention: Participants were randomly assigned to either a control group where they went about their normal routine and the intervention group received an online six module cognitive behavioural therapy pain management program once per wk for 12 wk.  Outcome Measures: World Health Organization Quality of Life Bref (WHOQOL-Bref), International Spinal Cord injury Quality of Life Basic Data Set (ISCIQOLBDS), International Spinal Cord Injury Pain Basic Data Set (ISCIPBDS), Douleur Neuropathique en 4 Questions (DN4), Chronic Pain Acceptance Questionnaire 8 (CPAQ8), Brief Pain Inventory (BPI), Hospital Anxiety and Depression Scale (HADS) and Pittsburgh Sleep Quality Index (PSQI).	<ol> <li>Moderate linear relationship found between the number of modules in which the users engaged in 80% or more of the content and reductions in overall pain intensity ((NRS) (p=0.05), the ISCIPBDS pain interference score (p=0.08), the LSF domain (p=0.039), the BPI interface scale (p=0.10) and the depression subscale of the HADS (p=0.10).</li> <li>At 3-mo follow-up a moderate linear relationship between module engagement and improvements in sleep quality (p=0.06), the AMS subcategory of the ISCIPBDS (p=0.09) and both the depression (p=0.03) and anxiety (p=0.05) subscales of the HADS.</li> </ol>
Coker et al., (2019) USA RCT PEDro=8 N=81	Population: Control Group (n=40): Mean age=52±15.3 yr; Gender: males=32, females=8; Time since injury=81.5 mo; Level of injury: complete=16, incomplete=24; Severity of injury: AIS A=16, B=3, C=8, D=13.  Intervention Group (n=41): Mean age=48±12.8; Gender: males=34, females=7; Time since injury=95 mo; Level of injury: complete=19, incomplete=22; Severity of injury: AIS A=19, B=2, C=7, D=13.  Intervention: Participants were randomized to either a control group in which they continued their normal rehabilitation or an intervention group in which they took part in an interactive cognitive behaviour therapy based learning program for one session per wk, 2 hrs per session for 6 wk with assessments at baseline, post intervention and at 8-wk intervals post intervention.  Outcome Measures: Moorong Self-Efficacy Scale (MSES), Generalized Self-Efficacy Scale (GSES), Diener Satisfaction with Life Scale (SWLS), Participation Assessment with Recombined Tools – Objective (PART-O), Patient Health Questionnaire – 9 (PHQ-9), and General Anxiety Disorder 7-Item (GAD-	<ol> <li>Non-significantly greater increase in MSES for the treatment group compared to the control group from baseline to 6-wk and neither group showed significant difference from baseline to the 30-wk follow-up (p=0.15).</li> <li>The treatment group showed significant improvements for the GSES, PHQ-9 and GAD-7 from baseline to 6-wk whereas the control group did not.</li> <li>Neither group showed significant changes in SWLS or PART-0 from baseline to 6-wk.</li> <li>Despite the significant differences for the treatment group from baseline to 6-wk or from baseline to 30-wk follow-up, there are no significant differences in results between treatment and control.</li> </ol>
Migliorini et al., (2016) Australia RCT PEDro=8 N <sub>Initial</sub> =59 N <sub>Final</sub> =48	7).  Population: Intervention group (n=34): Mean age=47.5±12.2 yr; Gender: males=25, females=9; Time since injury=11.4±11.9 yr; Level of injury: complete paraplegia=5, incomplete paraplegia=8, complete	71 individuals accepted the option to try the ePACT, but 12 did not complete the intake process and those that completed the intake process and those that did not only differed

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	tetraplegia=1, incomplete tetraplegia=18, unknown=2. Waitlist control group (n=25): Mean age=52.8±12.9 yr; Gender: males=17, females=8; Time since injury=19.8±14.0 yr; Level of injury: compete paraplegia=7, incomplete paraplegia=13, complete tetraplegia=2, incomplete tetraplegia=2, unknown=1.  Intervention: Participants were randomized to either an Electronic Personal Administration of Cognitive Therapy (ePACT) group in which the participants completed 10-module skills or a Waitlist Control group with assessments at baseline, 3 mo follow-up and 6 mo follow-up.  Outcome Measures: Depression, anxiety and stress scale-short (DASS21), personal wellbeing index, helplessness subscale and score above normative threshold of the depression, anxiety and stress scale-short form (DASS21).	<ul> <li>significantly with regards to stress scores (p=0.05).</li> <li>No significant differences between groups at baseline besides for time since injury (p=0.02) and level of injury distribution.</li> <li>Dropouts from the intervention group did not differ significantly from those that did not drop out in any outcome measure.</li> <li>At post-intervention, the ePACT group showed a significant reduction in depression, anxiety and stress and satisfaction with life significantly improved (p&lt;0.05 for all) while the waitlist control group improved significantly with a reduction in depression (p=0.01).</li> <li>Significant reductions in depression, anxiety and stress were maintained from post-intervention to 6 mo followup, and even reduced even more, albeit insignificantly.</li> </ul>
Dorstyn et al., (2012) Australia RCT PEDro=6 N=40	Population: Age=53.5yr; Gender: males=69%, females=31%; Level of injury: paraplegia=24, tetraplegia=16.  Intervention: Individuals with SCI were randomly assigned to receive telecounselling or standard inpatient care. Individuals in the treatment group received 12 weeks of biweekly phone motivational interviewing intervention for 20 mins.  Outcome Measures: Depression Anxiety Stress Scale-21 (DASS-21)	1. Small improvement in depression (d=0.32) were seen among individuals that received telecounselling compared to standard treatment group post intervention.  2. 4 of the 8 individuals in the treatment group that reported mild, moderate or extremely severe levels of depression and/or anxiety reported no symptoms postintervention; with maintenance up to follow-up.  3. Individuals in the standard care group reported increase in clinically significant symptoms of depression over time.
Heutink et al., (2012)  Netherlands  RCT  PEDro=6  N <sub>Initial</sub> =61 N <sub>Final</sub> =59	Population: Mean age=58.8 yr; Gender: males=39, females=22; Duration of pain=5.4 yr; Type of pain=neuropathic. Intervention: Individuals with SCI with chronic neuropathic pain were randomly assigned to receive interdisciplinary pain management which included Cognitive Behavioural Therapy (CBT) and education or wait list control group. The intervention consisted of 10 sessions over 10 week period with a comeback session 3 weeks after the 10 <sup>th</sup> session. Outcome Measures: Chronic Pain Grade Questionnaire; Hospital Anxiety and Depression Scale (HADS).	No significant difference in HADS depression was seen between the two groups or over time.
Duchnick et al., (2009) USA RCT PEDro=4	Population: Coping effectiveness training (CET): Mean age=50.8yr; Gender: males=95%; Level of injury: tetraplegia=40%; Severity of injury: AIS	<ol> <li>No baseline differences were found.</li> <li>Mood change was not affected by treatment condition.</li> <li>Significant decrease in depression (CES-</li> </ol>

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N=40	A=30%; B=30%; C=5%; D=35%; Supportive group therapy (SGT): Mean age=54.6yr; Gender: males=100%; Level of injury: tetraplegia=70%; Severity of injury: AIS A=20%, B=20%, C=20%, D=40%. Depression status=mild (no severe psychiatric condition score based on Mini-Mental State Examination).  Intervention: Participants were randomly allocated into either the CET group or the SGT group. Each inpatient group met 1x/wk for 60 min. The CET group focused on: stress and appraisal, problem solving, communication skills, behavioral strategies, cognitive strategies and social support/assertiveness. SGT group emphasized the sharing of experiences and information related to SCI, emotional and cognitive reactions, and support and education from peers and psychologist.  Outcome Measures: Center for Epidemiologic Studies Depression Scale (CES-D), State Trait Anxiety Inventory (STAI).	D) was seen at discharge (p<0.05). However, depression (p<0.05) increased significantly between discharge and follow-up (3 mo).
Schulz et al., (2009) USA RCT PEDro=6 N=346	Population: Mean age=53 yr; Mean time since injury=8 yr.  Intervention: Participants with SCI and their caregivers were randomly placed into 3 groups: caregiver only intervention; dual target intervention; information only control condition. Interventions were provided through computer telephone over a 6 mo period. The intervention involved knowledge and cognitive behavioural skills for coping with SCI.  Outcome Measures: Center for Epidemiologic Studies Depression Scale (CES-D), health symptoms, self-care problems, social integration.	<ol> <li>Significant improvement in individuals with SCI's CES-D and health symptoms were seen in the dual treatment group compared to the caregiver only group (p=0.014 versus p=0.031).</li> <li>Clinically significant improvement was also seen in caregivers in the dual target group compared to the caregiver only and control group on CES-D, burden, health symptoms.</li> </ol>
Li et al., (2019) China Pre-Post N=20	Population: Intervention group (n=9): Mean age=41.7±8.1 yr; Gender: males=9, females=0; Time since injury=8.1±4.1 mo; Level of injury: paraplegia=5, tetraplegia=4; Severity of injury: complete=5, incomplete=4. Comparison group (n=11): Mean age=43.0±15.7 yr; Gender: males=11, females=0; Time since injury=8.2±4.1 mo; Level of injury: paraplegia=7, tetraplegia=4; Severity of injury: complete=5, incomplete=6. Intervention: Participants were assigned to either an 8-wk coping oriented supportive program (COSP) or a comparison group going about their usual business.  Outcome Measures: Feasibility, acceptability, brief coping orientations to problems experienced inventory, experienced inventory, Moorong self-efficacy scale,	<ol> <li>Recruitment rate of this study was 88% and the retention rate was 100%, but 2 participants in the COSP group did not attend the minimum number of sessions necessary for analysis.</li> <li>Participants reported that the meeting times and the length of each meeting were very appropriate, while one participant mentioned meeting more frequently on a weekly basis.</li> <li>Encouragement and support from peers were reported as motivation enhancers and enjoyed the communication during the meetings.</li> <li>Significantly higher self-efficacy scores in the COSP group compared to the comparison group (p=0.048).</li> <li>Statistically significant effects of the</li> </ol>

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	hospital anxiety and depression scale (HADS), quality of life enjoyment and satisfaction questionnaire – short form and six-item social support questionnaire.	COSP on participant's life enjoyment and satisfaction (p=0.005) and satisfaction of social support (p=0.022).  6. Statistically significant improvements in self-efficacy (p=0.008), depression (p=0.007) and satisfaction with medicine (p=0.046) for the COSP group, but not the comparison group.
Dear et al.,(2018) Australia Pre-Post N=68	Population: Mean age=48.0±13.0 yr; Gender: males=34, females=34; Time since injury=8.0±10.0 yr; Severity of injury: complete=15, incomplete=44, unsure=9.  Intervention: Participants completed five online lessons and homework tasks for pain management with weekly support from a clinical psychologist.  Outcome Measures: Pain disability index (PDI), patient health questionnaire 9-item (PHQ-9), generalized anxiety disorder scale 7-item), Wisconsin brief pain questionnaire (WBPQ), pain self-efficacy questionnaire (PSEQ), pain catastrophizing scale (PCS), satisfaction with life scale (SWLS).	<ol> <li>Significant overall effect observed for pain-related disability (p&lt;0.001), anxiety (p&lt;0.001) and depression (p&lt;0.001), as well as improvements in all three from baseline to post-treatment (p&lt;0.001) and even further improvements at 3-mo follow-up (p&lt;0.015).</li> <li>Significant overall time effect observed for pain self-efficacy (p&lt;0.001), pain catastrophizing (p&lt;0.001) and life satisfaction (p&lt;0.001).</li> <li>Significant improvements from baseline to post-treatment for pain catastrophizing and life satisfaction (p&lt;0.001) with life satisfaction improving from post-treatment to follow-up (p=0.006) but not pain catastrophizing (p=0.062).</li> </ol>
Verwer et al., (2016) Netherlands Pre-Post N <sub>Initial</sub> =14 N <sub>Final</sub> =7	Population: Mean age=44.7 yr; Gender: males=11, females=3; Time since injury=15 mo; Level of injury: paraplegia=10, tetraplegia/unknown=4; Severity of injury: complete=6, incomplete=8.  Intervention: Participants engaged in an online self-help program called Psyfit in which they were asked to complete 2 of 6 modules with 4 wk given to complete each module and assesments taken pre-intervention, post-intervention and at 3-mo follow-up.  Outcome Measures: Adherence, satisfaction, mental health inventory-5 (MHI-5), center for epidemiological studies depression scale (CES-D), and the Warwick-Edinburgh mental well-being scale.	<ol> <li>75% of the participants completed the first module and 39% completed the second, 11 participants finished 50% or more of the first module and 7 completed the entire first module and started with the second module and these were considered the study completers.</li> <li>Five of the seven completers reported that the program was good and they would recommend it to others.</li> <li>The main criticism was that the program was not specified to SCI participants enough, and the other was that the program modules were too long and rigid, making them difficult to want to complete.</li> <li>Study completers showed significant improvements in the MHI-5 scores from pre- to post-intervention (p&lt;0.05) and all scores decreased significantly between post-intervention and 3-mo follow-up (p&lt;0.05), resulting in no significant difference from pre-intervention to 3-mo follow-up (p&gt;0.05).</li> </ol>
Heutink et al., (2014) Netherlands	<b>Population:</b> Mean age=56.5yr; Gender: males=21, females=8; Level of injury:	HADS-depression scores did not change over time.

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Follow-Up N=29	paraplegia=18, quadriplegia=11; Severity of injury: incomplete=14, complete=15; Mean time post injury=5.4yr; Depression status=symptoms.  Intervention: Participants who received treatment in Heutink et al.,(2012) were assessed at 6, 9, and 12mo follow-up.  Outcome Measures: Hospital Anxiety & Depression Scale (HADS).	
Dorstyn et al., 2011 Australia PCT N=24	Population: Treatment: Mean age=53.2yr; Gender: males=9, females=2; Level of injury: paraplegia=6, quadriplegia=5; Severity of injury: complete=8, incomplete=3; Control: Mean age=44.5yr; Gender: males=11, females=2; Level of injury: paraplegia=8, quadriplegia=5; Severity of injury: complete=11, incomplete=2; Intervention: Individuals were assessed using the Depression Anxiety Stress Scale-21 (DASS-21). Those with subclinical DASS-21 scores were placed in the control group. Those with moderate to severe scores were offered individual Cognitive Behavioural Therapy (CBT) treatment for a range of 7 to 22 sessions for 30-60mins each. These individuals were also prescribed low dose amitriptyline as well as 5 control participants for neuropathic pain. Outcome Measures: Depression Anxiety Stress Scale-21 (DASS-21)	<ol> <li>Mood had no effect on functional independence measure outcomes at admission or discharge.</li> <li>Total DASS-21 scores did not change significantly over time in the treatment group however, depression subscores varied significantly.</li> <li>Mean depression subscores decreased significantly post interventions; however increased significantly at 3 mo follow-up.</li> <li>At 3 mo follow-up, 78% of individuals in the treatment group met clinical levels of caseness on the DASS-21; only 1 individual in the control group met these criteria.</li> </ol>
Migliorini et al., (2011) Australia Pre-Post N=3	Population: Age range=41-65yr; males=2, females=1; Severity of injury: incomplete=2, complete=1 Intervention: Participants were offered a computer based Cognitive Behavioural Therapy (CBT) intervention involving 10 modules. Outcome Measures: Depression Anxiety Stress Scale-21 (DASS-21), PWI, SCL EWQ	<ol> <li>A reduction in DASS-21 depression and stress scale was seen in 2 Individuals; anxiety scale in all three individuals.</li> <li>Overall quality of life improved in 1 individual and remained the same in 2 individuals.</li> </ol>
Perry et al., (2010) Australia PCT N=36	Population: Mean age=43.8yr; M/F=28/8; Level of injury: tetraplegia=13, paraplegia=20, Severity of injury: complete=13, incomplete=23; Duration of pain=60.5 mo; Type of pain=mixed.  Intervention: Individuals with SCI and chronic pain were placed in either the multidisciplinary cognitive behavioural pain management program (PMPs) group which involved a pharmacological treatment plan and individual and group based CBT for pain; or the usual care group.  Outcome Measures: Hospital Anxiety and Depression Scale (HADS).	A trend towards improvement on the HADS depression score was seen in the PMP group at 1 mo post treatment; however, the HADS depression scores returned to pre-treatment levels at 9 mo follow-up.
Norrbrink Budh et al., (2006) Sweden PCT	<b>Population:</b> Treatment: Mean age=53.2yr; Gender: males=9, females=18; Level of injury: C=15, Th=6, L/S=6; Severity of injury: AIS: A=4, C=3, D=19, E=1; Controls:	At 1 yr follow up, the sign test showed no significant change in depression levels HADS in the treatment group from baseline.

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N=38	Mean age=49.9yr; Gender: males=5, females=6; Level of injury: C=4, Th=7; Severity of injury: AIS: A=6, D=5; Depression status=mixed.  Intervention: The intervention group received education, Cognitive Behavioural Therapy (CBT), relaxation and body awareness training totaling 5 hr/wk for 10 wk while matched controls received no treatment for neuropathic pain. Depression was assessed as a secondary outcome.  Outcome Measures: Hospital Anxiety and Depression Scale (HADS).	2. However, the treatment group showed systematic decrease in depression as measured by relative change in position (95% confidence interval) at 1 yr follow up.  3. Depression also decreased systematically in the treatment group compared to the control group at 1 yr follow up; however, the sign test showed no significant change
Kennedy et al., (2003) United Kingdom Cohort N <sub>Initial</sub> =85; N <sub>Final</sub> =85	Population: SCI: Age=16-65 yr; Cause of injury: trauma; Chronicity=acute. Depression status=mild (BDI=15)  Intervention: Consisted of 60-75 min sessions 2x/wk for 3.5 wk in small groups of 6-9 participants. Session topics were: normalizing stress, appraisal skills, problem solving, examination of thoughts feeling and behavior, awareness of negative assumptions, and choosing appropriate ways both to cope and to increase social supports.  Outcome Measures: Beck Depression Inventory (BDI), State Trait Anxiety Inventory (STAI), Coping Strategies Scale (CSS), Self-Perception Scale (SPS), and Functional Impairment Measure (FIM). Measures were taken before and immediately after the intervention, and at a 6wk follow-up with the intervention group, and every 6 weeks with the historic control group.	Mood: Depression scores decreased for the intervention group following the intervention (p=0.001).
Craig et al., (1999) Australia Case Control N <sub>Initial</sub> =58; N <sub>Final</sub> =58	Population: SCI: Age=16-73 yr; Gender: males=57, females=12; Severity of injury: complete=68%-71%; Chronicity=acute. Depression status=mixed group. Intervention: 10 wk in small groups. Each session lasted 1.5-2 hrs replacing normal rehab therapy. Individuals underwent Cognitive Behavioural Therapy (CBT) attempts to change behaviour and feeling associated with the problem and considered maladaptive. Main aim of the program was to provide cognitive and behavioural skills to cope with the psychological and social difficulties encountered upon entering the community (as described above). Outcome Measures: Re-admissions, drug usage, relationships, social discrimination, self-reports of adjustment	Percentages are reported for each area measured.  1. Re-admission: More control were readmitted following discharge (p<0.05).  2. Drug usage: Controls were found to have higher self-reported drug usage than the treatment group (cases) (p<0.05).  3. Relationships and Social discrimination: No significant differences were noted between the two groups in relation to the types of relationship each person developed.  Self-reports of adjustment: Treatment groups said they had a higher number of persons who felt they had adjusted well compared to the controls (p<0.01).
King & Kennedy (1999) United Kingdom PCT N <sub>Initial</sub> =38; N <sub>Final</sub> =38	Population: Age=16-65 yr; Chronicity=acute; Depression status=mild Intervention: Consisted of 60-75 min sessions 2x/wk with 6-9 people. Sessions included a mixture of didactic presentations, practical exercises and time allocated for open	Pre-intervention comparisons of groups:  1. The intervention group used religion significantly more and humour significantly less as coping strategies (p<0.05) than did controls.  2. There were no pre-intervention

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	group discussions. Following components made up the program: appraisal training, cognitive behavioural coping skills training, and strategies for choosing an adaptive match between appraisals and coping skills, and obtaining and maintaining social support.  Outcome Measures: Functional Impairment Measure (FIM), Social Support Questionnaire (SSQ), Beck Depression Inventory (BDI), State Trait Anxiety Inventory (STAI), COPE.	differences between the groups on range of injury, social support, FIM scores, other coping strategies, depression or anxiety.  Post-intervention comparison of groups:  1. Across time there were significant decrease in the depression scores (p<0.05).
Craig et al., (1998) Australia Cohort N <sub>Initial</sub> =69; N <sub>Final</sub> =58	Population: Treatment: Mean age=31yr; Gender: males=23; females=5; Depression status=mixed group Intervention: 10 wk inpatient program. Small groups (4-5/group) for 1.5 hr/wk. Major aim was to provide cognitive and behavioural skills to cope with the psychological and social difficulties encountered upon entering the community. Cognitive Behavioural Therapy (CBT) included muscle relaxation, visualization techniques, self-hypnosis and cognitive restructuring, social skills and assertiveness training, and sexuality sessions. Outcome Measures: State Trait Anxiety Inventory (STAI), Beck Depression Inventory (BDI).	<ol> <li>Significant differences noted for depression overall, (p&lt;0.05).</li> <li>Both the treatment and the control groups appeared to be less depressed 1 and 2 yr after injury.</li> <li>For individuals who scored high on the depression scale before therapy, (9 from each group) there were significant differences after treatment. (p&lt;.01) with the control group reporting higher levels of depressive mood.</li> <li>Depressive mood scores showed significant differences across time (p&lt;0.01) with scores 1 and 2 yr post injury significantly lower than pretreatment scores (p&lt;0.01).</li> </ol>
Craig et al., (1997) Australia PCT N=69	Population: SCI: Age=16-73 yr; Gender: males=57, females=12; Severity of injury: complete=68%-71%; Chronicity=acute. Depression status=mixed group Intervention: 10 wk program. Small groups (4-5/group), for 1.5 hr/wk. Provided cognitive and behavioural skills to cope with the psychological and social difficulties encountered upon entering the community. Cognitive Behavioural Therapy (CBT) included muscle relaxation, visualization techniques, self-hypnosis and cognitive restructuring, social skills and assertiveness training, and sexuality sessions. Outcome Measures: State Trait Anxiety Inventory (STAI), Beck Depression Inventory( BDI), Rosenberg Self-Esteem scale.	<ol> <li>Significantly greater self-esteem for treatment group (p&lt;0.01). Taking this into account, no significant differences between the groups were found immediately after injury or 1 yr later.</li> <li>No significant initial differences were found between the groups on anxiety and depression when comparing pre, post and 1 yr scores.</li> <li>BDI scores were significantly lower for both conditions 1 yr after injury (p=0.014).</li> <li>Those who scored&gt;14 on the depressive mood scale were analyzed using repeated measures ANOVA. 22 persons (from both groups) were examined. Significant differences were noted between the groups (p&lt;0.01).</li> <li>Significant differences were also noted across time for the BDI scores (p&lt;0.01). Post hoc tests showed that the treatment group had significantly greater levels of improvement across time (p&lt;0.05).</li> </ol>