The effectiveness of interventions to reduce psychological distress in patients with autoimmune rheumatic conditions: a systematic review of effectiveness

Jamie Hulley-Mills[1,5], Christine Silverthorne[1], Beth Jones[2], Jo Hooper[3], Joanna Robson[1], Emma Dures[1,3], Jo Daniels[4], Miles Thompson[1], Mwidimi Ndosi[1]

Institutional affiliations:
1. School of Health and Social Wellbeing, University of the West of England, Bristol, UK.
2. School of Healthcare Sciences, Cardiff University, Cardiff, UK.
3. University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK
4. Department of Psychology, University of Bath, Bath, UK.
5. NMAHPs Internship Versus Arthritis, University of the West of England, Bristol, UK.

Background:

Autoimmune rheumatic conditions are multisystem chronic disorders associated with increased psychological distress. Consequences include poor medication adherence and high levels of disease activity. Psychological interventions may reduce distress and change health behaviours.

Aim:

To determine the effectiveness of interventions for psychological distress in patients with autoimmune rheumatic conditions.

Methods:

This was a systematic review of effectiveness. included randomised controlled trials of psychological interventions in adults with autoimmune rheumatic conditions. We searched MEDLINE, BNI, CINAHL, EMBASE, EMCARE, PsycINFO, NICE Evidence and The Cochrane Library. Two reviewers screened titles and abstracts and assessed the methodological quality of the included studies using Cochrane Risk of Bias 2 tool. Data were extracted by one reviewer and checked by a second. In each study, the effectiveness data were determined by extracting the reported means (and Standard Deviation) for each group and calculating the standardised mean differences using RevMan 5.4 software (The Cochrane Collaboration, 2020). The data on the primary outcomes (anxiety and depression) are reported here.

Results:

The search identified 96 studies. The process of screening and assessing for eligibility resulted into 20 studies for inclusion. Of these, one study had an overall low risk of bias, and 19 had ‘some concerns’, mainly due to inadequate blinding and no information on pre-specified analysis plan. Only eight studies reported the effects on anxiety and 10 studies reported on depression. These studies included 919 patients in total. Most interventions were based on cognitive behavioural therapy and the context of delivery ranged from face-to-face individualised treatment to online group therapy. They often included education on topics such as stress and fatigue. Interventions often trained participants to develop skills in relaxation, problem solving, and thought reframing. Goal setting and action planning were common to help participants make behaviour changes and apply their learning.

Table 1 summarises disease group, type of intervention, comparator, outcome measure, and effects.

Table 1: Effects of interventions for psychological distress in people with Autoimmune Rheumatic Conditions:

First Author Year	Disease group	Intervention name	Comparator	Outcome	Outcome measure	SMD (95%CI)
Niedermann 2011	Rheumatoid Arthritis (N=53)	Pictorial Representation of Illness and Self-Management (PRISM)	Conventional joint protection	Anxiety	HADS -A	0.46 (-0.08 to 1.01) No effect
Hewlett 2019	Rheumatoid Arthritis (N=308)	RAFT - group behavioural CBT	Usual care - plus fatigue self-management booklet	Anxiety	HADS-A	-0.21 (-0.44 to 0.02) Small effect
Sharpe 2003	Rheumatoid Arthritis (N=44)	Routine care and cognitive behavioural interventions	Routine care only.	Anxiety	HADS-A	-0.23 (-0.83 to 0.36 Small effect
Ferwerda 2017	Rheumatoid Arthritis (N=69)	Internet-based tailored CBT	Standard rheumatology care.	Anxiety	IRGL Anxiety and Negative Mood	-0.31 (-0.66 to 0.04) Small effect
Evers 2002	Rheumatoid Arthritis (N=59)	CBT	Standard medical care only.	Anxiety	STAI	-0.33 (-0.85 to 0.18) Small effect
Hewlett 2011	Rheumatoid Arthritis (N=127)	Group behavioural CBT	Fatigue information	Anxiety	HADS-A	-0.48 (-0.83 to -0.13) Small effect
Navarrete-Navarrete 2010	Lupus Erythematosus (N=45)	CBT	Standard care of exercise, diet control and rest	Anxiety	STAI	-0.88 (-1.50 to -0.26) Large effect
Solatti 2017	Systemic Lupus Erythematous (N=46)	Mindfulness-based CBT	Routine medical care plus advice around diet, exercise and rest	Anxiety	GHQ - 28	-1.15 (-2.10 to -0.79) Large effect
Karlson 2004	Systematic Lupus Erythematous (N=90)	Theory-based psycho-educational intervention	A video presentation and monthly telephone calls.	Depression	SF-36, Global Mental Health	0.45 (0.03 to 0.87) No effect
Niedermann 2011	Rheumatoid Arthritis (N=53)	Pictorial Representation of Illness and Self-Management (PRISM)	Conventional joint protection	Depression	HAS-D	0.17 (-0.37 to 0.71) No effect
Hewlett 2019	Rheumatoid Arthritis (N=308)	RAFT - group behavioural CBT	Usual care - plus fatigue self-management booklet	Depression	HAS-D	-0.05 (-0.28 to 0.18) No effect
Knittle 2015	Rheumatoid Arthritis (N=78)	Education session plus a motivational interview from a physical therapist	Patient education session	Depression	BSI	-0.10 (-0.54 to 0.34) No effect
Evers 2002	Rheumatoid Arthritis (N=59)	CBT	Standard medical care only.	Depression	IRGL Anxiety and Negative Mood	-0.54 (-1.06 to -0.02) Medium effect
Sharpe 2003	Rheumatoid Arthritis (N=44)	Routine care and cognitive behavioural interventions	Routine care only.	Depression	HAS-D	-0.55 (-1.16 to 0.05) Medium effect
Hewlett 2011	Rheumatoid Arthritis (N=127)	Group behavioural CBT	Fatigue information	Depression	HAS-D	-0.65 (-1.01 to -0.20) Medium effect

Ferwerda 2017	Rheumatoid Arthritis (N=69)	Internet-based tailored CBT	Standard rheumatological care.	Depression	BDI	-0.87 (-1.25 to -0.50) Large effect
Navarrete-Navarrete 2010	Lupus Erythematosus (N=45)	CBT	Standard care of exercise, diet control and rest	Depression	BDI	-0.94 (1.56 to -0.32) Large effect
Soletti 2017	Systemic Lupus Erythematous (N=46)	Mindfulness based CBT	Routine medical care plus advice around diet, exercise, and rest	Depression	GHQ-28	--1.35 (-1.99 to -0.70) Very Large Effect

Table legends: SMD, Standardised Mean Difference; HADS, Hospital Anxiety and Depression Scale; GHQ, Global Health Questionnaire; STAI, Spielberge State-Trait Anxiety Inventory; BSI, Brief Symptoms Index; BDI, Becks Depression Inventory; IRGL, Impact of Rheumatic Diseases on General Health and Lifestyle; SF, Medical Outcomes Study Short Form 36; CBT, Cognitive Behavioural Therapy; Effect sizes of: 0.0, 0.2, 0.5, 0.8, and 1.2 represent no, small, medium, large, and very large effects respectively.

Conclusion:

Most interventions were effective in reducing anxiety and depression in autoimmune rheumatic conditions. However, given the clinical heterogeneity and ‘some concerns’ in the included quality of studies more work is needed to understand the mechanisms of the intervention effectiveness.