

## Meta-review of high-quality systematic reviews of interventions in key areas of liaison psychiatry

RACHEL RUDDY and ALLAN HOUSE

**Background** When planning and delivering a liaison psychiatry service it is important to have an understanding of the research evidence supporting the use of interventions likely to be delivered by the service.

**Aims** To identify high-quality systematic reviews for all interventions in three defined areas of liaison psychiatry, to summarise their clinical implications and to highlight areas where more research is needed. The three areas were the psychological effects of physical illness or treatment, somatoform disorders and self-harming behaviour.

**Method** Computerised database searching, secondary reference searching, hand-searching and expert consultation were used to identify relevant systematic reviews. Studies were reliably selected, and quality-assessed, and data were extracted and interpreted by two reviewers.

**Results** We found 64 high-quality systematic reviews. Only 14 reviews included meta-analyses.

**Conclusions** Many areas of liaison psychiatry practice are not based on high-quality evidence. More research in this area would help inform development and planning of liaison psychiatry services.

**Declaration of interest** None. Funding detailed in Acknowledgements.

There are several reasons to provide liaison psychiatric services. General hospital staff see high rates of psychiatric illness compared with rates in the community, as well as acute presentations of psychiatric problems, patients with comorbid psychiatric and chronic physical illness, and patients with somatisation disorders who will not attend a community mental health service but may see psychiatric specialists in the general hospital setting (Peveler *et al*, 2000). Despite this large potential need, liaison psychiatry services are often underdeveloped and provision varies greatly (Howe *et al*, 2003; Ruddy & House, 2003). In planning more comprehensive and coherent liaison services for the future, we will require knowledge about which interventions work for the common psychiatric problems seen in general hospitals. We therefore conducted this meta-review of high-quality systematic reviews of interventions for clinical problems likely to be treated by liaison psychiatry services. We focused on systematic reviews because they are the highest quality of evidence in any hierarchy of evidence; they are good for identifying the limits of current knowledge and for prioritising areas for future research.

Our study was designed to identify high-quality systematic reviews for all interventions in three defined areas of liaison psychiatry, to summarise their clinical implications and to highlight areas where more research is needed.

### METHOD

#### Types of studies

All relevant systematic reviews and meta-analyses were included.

#### Areas of liaison psychiatry

We identified six key areas of liaison psychiatry practice by reading the liaison

psychiatry research literature and liaison psychiatry textbooks. These six areas were:

- (a) psychological effects of physical illness or its treatment;
- (b) somatoform disorders;
- (c) self-harming behaviour;
- (d) emergency presentations of acute psychiatric illness to general hospitals;
- (e) physical effects of psychological or psychiatric treatment;
- (f) physical findings or behaviour raising concerns about possible physical or sexual abuse.

We decided to focus our review on the psychological effects of physical illness or treatment, somatoform disorders and self-harming behaviour. We excluded emergency presentations because review groups linked to the Cochrane Collaboration undertake systematic reviews covering the acute management of different psychiatric illnesses. We felt that the physical effects of psychological or psychiatric illness and treatment are generally the concern of physicians, general psychiatrists or general practitioners rather than liaison psychiatrists, and physical findings raising concerns about abuse are predominantly the concern of child and adolescent liaison psychiatry.

Within each of our three categories we further defined the scope of the review. Under somatoform disorders we decided to exclude interventions for somatoform pain disorder (except psychotropic drugs), because psychological interventions for pain had recently been covered in the UK's Department of Health review of psychological therapies (Department of Health, 2001). We also chose to exclude treatments for psychosexual problems, eating disorders, pregnancy and related disorders, traumatic brain injury, learning disabilities, and alcohol and recreational drugs misuse, because – although these areas may impinge upon a liaison psychiatry service – they are often dealt with by designated specialist services.

For the purpose of this review we classed dementia as a neurological disorder and therefore included psychiatric complications of dementia (such as behavioural disturbance and depression) in the category 'psychological effects of physical illness or treatment'. We also included delirium as a medical illness in the category 'psychological effects of physical illness and treatment'.

## Participants

We reviewed interventions in adults (over 16 years old). Evidence on interventions in child liaison psychiatry is covered comprehensively in a report by the Royal College of Psychiatrists (Scott *et al*, 2001). We included reviews where it was implied that the majority of the participants had a problem area consistent with the areas of liaison psychiatry being reviewed, regardless of the length of illness. Reviews were not excluded on the grounds of nationality or gender of participants. Reviews were excluded if they were conducted before 1980 (because of changes in medical treatments) and if the only treatment settings were primary care or prisons.

## Types of intervention

We classified interventions under six headings:

- (a) assessment and advice by a mental health specialist;
- (b) physical interventions: for example, medication, electroconvulsive therapy, surgery, physiotherapy, nursing, feeding and bathing;
- (c) psychological interventions: these include all types of therapies mentioned in the Department of Health document covering treatment choice in psychological therapies and counselling (Department of Health, 2001);
- (d) service interventions: for example, outpatient clinics, admission to a medical ward, admission to a psychiatric ward, specialist units, day hospitals, helplines and provision of crisis cards;
- (e) packages of interventions: two or more of the above interventions, or one or more of the above coupled with a social intervention (for example, occupational therapy, home support, housing, financial support or social activities);
- (f) no intervention: included because it is possible that not receiving an intervention from a liaison psychiatry service might be more beneficial than receiving one.

## Outcome measures

We recorded outcomes as reported by the authors, with special attention to psychological outcome, medical outcome, social functioning and quality of life, service outcomes, adverse effects, satisfaction and economic outcomes.

## Search strategy

The *ACP Journal Club*, the Database of Abstracts of Reviews of Effects (DARE), the Cochrane Controlled Trials Register, Medline, EMBASE and PsycINFO were searched from 1980 to the end of 2002 for systematic reviews of all interventions listed above in all areas of liaison psychiatry. The scope of the review was wide so the search strategy was extensive and used Medical Subject Headings (MeSH) terms to cover physical and mental health problems; the standard Cochrane Collaboration search strategy for systematic reviews was also used. Next, the journal *Evidence-based Mental Health* (1998–2002) and the December issue of *Clinical Evidence Concise* (BMJ, 2002) were hand-searched, and the references of all reviews found in this way were searched. Experts in liaison psychiatry were consulted by circulating the findings to members of the European Association of Consultation Liaison Psychiatry and Psychosomatics, the Liaison Psychiatry JISCmail group and the Trent, Yorkshire and North East Liaison Psychiatry Network.

## Appraisal of quality

All Cochrane reviews were included as they are known to be methodologically sound and are peer-reviewed against methodological criteria. Review articles and meta-analyses that were not registered with the Cochrane Collaboration were evaluated using quality criteria suggested by Oxman & Guyatt (1988). Each review or meta-analysis was assigned to one of three bands – high quality (all eight criteria), medium quality (five, six or seven criteria) and low quality (fewer than five criteria); R.R. rated all the reviews and A.H. rated a sample of 20% of the papers independently. Any disagreement in rating was discussed and reported. Only papers rated as being high quality or medium quality were included.

## Data extraction

Data relating to the methods of the review, including studies and conclusions, were extracted from the reviews using a standardised form.

## RESULTS

After screening 4084 abstracts and the references of 341 reviews to see if they

met the inclusion criteria, we found 64 relevant systematic reviews (including 10 completed Cochrane reviews). Most of the other reviews were excluded because they did not summarise data from intervention studies or were of poor quality. Table 1 summarises the number of reviews included in each area of our meta-review. It can be seen that there is an imbalance in the number of reviews for different areas; the availability of evidence does not match well with government priority areas or with the prevalence and severity of the conditions. For example, we found five reviews of treatment for irritable bowel syndrome but only one for cardiovascular disorders. We identified 13 relevant Cochrane reviews that were only at protocol stage and so could not be included in this meta-review.

Fourteen of the included reviews contained meta-analyses that provided a quantitative summary of the effectiveness of the intervention, with confidence intervals. Table 2 summarises these reviews and Table 3 summarises the other included reviews. Of the other 50 included reviews there were 13 in which the primary data used in the review were poor and no clear result was achievable. Even among the reviews with meta-analyses, in only four was there unequivocal evidence of an effective intervention. These interventions were antidepressants for depression in physical illness, antidepressants for physically unexplained symptoms, antidepressants for chronic headache and cognitive-behavioural therapy for chronic fatigue syndrome (O'Malley *et al*, 1999; Tomkins *et al*, 2001; Gill & Hatcher, 2002; Price & Couper, 2002).

Table 4 shows the areas for which there was no good-quality systematic review. It demonstrates large gaps in review evidence for some of the most common components of a liaison psychiatry service, such as assessment and advice, and service level interventions; for one of the basic problems that a liaison psychiatry service deals with (adjustment to chronic illness); and for some of the most common medical conditions, such as renal, respiratory and cardiovascular disorders.

## Quality of the included studies

Tables 2 and 3 show the quality ratings for the included reviews. Forty-three of the included studies were rated as highest quality using the criteria of Oxman & Guyatt (1988). This means that these

**Table 1** Number of systematic reviews included for each area of the meta-review

Disorder	Reviews (n=64)
Neurological disorders	17 (8 dementia, 4 stroke, 2 multiple sclerosis, 2 Parkinson's disease, 1 Sydenham's chorea)
General physical illness	6 (4 delirium, 2 general physical illness)
Gastrointestinal disorders	6 (5 irritable bowel syndrome, 1 non-ulcer dyspepsia)
Oncology	7
Endocrine disorders	2 (1 diabetes mellitus, 1 hyperparathyroidism)
Haematological disorders	2 (1 sickle cell disease, 1 thalassaemia)
Surgery	2
Cardiovascular disorders	1
Immunology	1
Multisystem physical disorders	1
Musculoskeletal disorders	1
Respiratory disorders	1
Somatisation disorders	6 (2 fibromyalgia, 4 general somatisation disorder)
Somatoform disorders	3 (1 pelvic pain, 1 chronic headache, 1 somatoform pain disorder)
Chronic fatigue syndrome	3
Unexplained physical symptoms	2
Self-harm	4 (3 general self-harm, 1 self-inflicted eye injury)

studies had a clear research question, a comprehensive search strategy and a repeatable method for appraisal and data extraction and that the data combination and conclusions were appropriate.

The other 21 studies were of medium quality. All of these studies had a clear research question and a comprehensive search strategy. Three reviews did not describe the methods used to determine which articles to include in the review (Howland, 1993; Krupnick *et al*, 1993; Guthrie, 1996). Ten reviews did not describe assessing the validity of the primary studies and therefore did not have reproducible methods (Howland, 1993; Kennedy & Feldmann, 1994; Carter *et al*, 1996; Guthrie, 1996; Moore, 1996; Gordon & Hibbard, 1997; Repper, 1999; Sheard & Maguire, 1999; Allen *et al*, 2002; Turner-Stokes & Hassan, 2002). Ten reviews described assessing the validity of the studies, but the method used was not reproducible (Cummings, 1992; Smith, 1992; Goodnick *et al*, 1995; Lovejoy & Matteis, 1997; Van der Sande *et al*, 1997; Akehurst *et al*, 2001; Miller & Cohen, 2001; Pratt *et al*, 2002; Rose *et al*, 2002; Whyte & Mulsant, 2002). Four reviews did not analyse (even descriptively) the variation in the findings of the primary studies (Cummings, 1992; Goodnick *et al*, 1995; Gordon & Hibbard, 1997; Sheard & Maguire, 1999). Several studies formed conclusions that were not supported by

their findings (Kennedy & Feldmann, 1994; Goodnick *et al*, 1995; Moore, 1996; Gordon & Hibbard, 1997; Allen *et al*, 2002).

## DISCUSSION

Meta-reviews are important because they summarise the highest-quality research evidence in a field, identify gaps in the research literature and explain the reasons for discordant conclusions between systematic reviews. It is clear from our meta-review that there are large gaps in the systematic review evidence, not only in clinical areas such as renal, respiratory and cardiovascular disorders, but also in some of the most common interventions such as assessment and advice, and service level interventions. Even in the areas that are covered there is often no clear conclusion because of the poor quality of the primary data or because the reviews provide conflicting results, for example concerning the role of neuroleptics in behavioural disorders in dementia (Lanctot *et al*, 1998; Davidson *et al*, 2000). Some of the review results are difficult to interpret clinically. For example, Price & Couper (2002) found that cognitive-behavioural therapy was helpful in preventing deterioration in physical functioning in people with chronic fatigue syndrome up to 6 months after treatment ended. However, it is

unclear what overall impact this would have on someone who is living with chronic fatigue syndrome. The review of the use of antidepressants in chronic headache (Tomkins *et al*, 2001), which provides a number needed to treat of four for one patient to improve, suffers from the lack of evidence in the primary studies to indicate whether this effect is independent of depression.

## Clinical implications

Lack of evidence implies that much of the clinical practice of liaison psychiatry is based on lower-quality evidence or extrapolation from other areas of psychiatry where there is high-quality evidence. It is hard to know where to set the limits of such extrapolation (Naylor, 1995). For example, Gill & Hatcher (2002) combined the results of trials of treatment for depression in a wide range of physical illnesses despite possible clinical heterogeneity. It may be that use of antidepressants for depression is not indicated in some physical illnesses and that the costs and benefits of treating depression with antidepressants in different medical disorders will vary.

In the absence of adequate evidence other factors must be influencing liaison psychiatry service development, which might help account for the current service variability (Ruddy & House, 2003). Clinical services cannot be packages of interventions that systematic reviews have shown to be effective. If we are to build rational services, then we need to be clearer about what factors other than clinical research should influence planning decisions. We should develop technologies for integrating each of these factors (values, policies, funding contingencies and so on) into planning, and indicate explicitly how we arrive at the trade-offs between them.

## Research implications

The clinical practice of liaison psychiatry needs research in the form of systematic reviews with meta-analyses and primary studies. Systematic reviews are important because for the busy clinician they are a valuable, unbiased summary of the current literature (Egger *et al*, 2001). It is interesting to note that there is currently no Cochrane group to cover the work in this psychiatric specialty, which may be one of the reasons there are so few good systematic reviews. Even in areas where there appears to be unequivocal evidence of

**Table 2** Included reviews with meta-analyses (14 reviews)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Anie & Green (2002)	Coping in sickle cell disease	Patient education programme	8	5 RCTs	There was a significant improvement in attitudes towards service personnel (WMD= -4.39, 95% CI -6.45 to -2.33) and medication (WMD= -1.74, 95% CI -2.98 to -0.50) compared with TAU. They used a non-validated rating scale so the finding is questionable
Anie & Massaglia (2002)	Coping in thalassaemia	CBT	8	1 RCT	Compared with TAU, CBT significantly reduced the affective component (WMD= -3.00, 95% CI -4.63 to -1.37) but not the sensory component of pain severity (WMD=0.00, 95% CI -9.39 to 9.39). Also improved scores on daily functioning (WMD= -15.00, 95% CI -22.16 -7.84) and increased internal locus of control beliefs about pain (WMD= -3.80, 95% CI -6.05 to -1.55)
Davidson <i>et al</i> (2000)	Psychosis and aggression associated with dementia	Novel antipsychotics	8	3 RCTs	Olanzapine and risperidone better than placebo (OR=0.59, 95% CI 0.44 to 0.78; NNT=8, 95% CI 5 to 18). More than 80% of patients had at least one adverse event (EPS: OR=2.04, 95% CI 1.24 to 3.33; NNH=13, 95% CI 8 to 40) and somnolence (OR=1.74, 95% CI 1.18 to 2.57; NNH=10, 95% CI 7 to 22). No significant difference in withdrawals from trial (OR=1.31, 95% CI 1 to 1.71). Risperidone v. haloperidol: no significant difference in clinical improvement, adverse events or withdrawals
Gill & Hatcher (2002)	Depression in physical illness	Antidepressants	8	18 RCTs	Patients treated with antidepressants were significantly more likely to improve than those given placebo: NNT=4.2, 95% CI 3.2 to 6.4. Antidepressants seemed reasonably acceptable to patients: NNH (withdrawal) 9.8, 95% CI 5.4 to 42.9
Hawton <i>et al</i> (2002)	Self-harm	Problem-solving, contact card, intensive after-care, antidepressants, depot flupentixol, DBT	8	23 RCTs	Depot flupentixol v. placebo (summary OR=0.09, 95% CI 0.02 to 0.50) and DBT v. TAU (summary OR=0.24, 95% CI 0.06 to 0.93) both reduced rates of further self-harm in cases of multiple repeated self-harm. No significant effect of problem-solving therapy (OR=0.70, 95% CI 0.45 to 1.11), emergency contact card (OR=0.45, 95% CI 0.19 to 1.07), intensive after-care (OR=0.83; 95% CI 0.61 to 1.14) and antidepressants (OR=0.83; 95% CI 0.47 to 1.48). Many of the trials are small and the results should be treated cautiously
Kugler <i>et al</i> (1994)	Anxiety and depression in patients with coronary disease	Rehabilitation exercise programmes	8	13 studies	Anxiety: ES=0.31, 95% CI 0.07 to 0.35 ( $P < 0.01$ ). Depression: ES=0.46, 95% CI 0.11 to ? ( $P < 0.001$ ). Both anxiety and depression may benefit from an exercise intervention, but eight of these studies did not have controls and there is no test for heterogeneity of studies
Lanctot <i>et al</i> (1998)	Behavioural disorders in patients with dementia	Neuroleptics	8	17 studies	The pooled mean percentage of patients who improved for all neuroleptics was 61% (95% CI 47 to 75) and for placebo was 26% (95% CI 14 to 38). The therapeutic effect was 26% above placebo (95% CI 14 to 38), $z=4.26$ , $P < 0.0001$ . No significant difference was found between neuroleptics. When the trials were weighted for quality there was no difference between neuroleptics and placebo. Studies were homogeneous. Side-effects (95% CI 13 to 37, $z=4.06$ , $P < 0.001$ ) and withdrawals were significantly more common for neuroleptics v. placebo

(continued)

Table 2 (continued)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Meyer & Mark (1995)	Cancer patients	Psychosocial interventions	8	45 studies	Effect sizes for emotional adjustment (ES=0.24, 95% CI 0.17 to 0.32), functional adjustment (ES=0.19, 95% CI 0.06 to 0.32), treatment and disease-related symptoms (ES=0.26, 95% CI 0.16 to 0.37) and global measures (ES=0.28, 95% CI 0.08 to 0.49) were all significant (although some effects were weak), but no significant difference was seen between the treatment groupings. Could be a type 2 error because of the number of comparisons or due to heterogeneity of grouped treatments
Mullen <i>et al</i> (1987)	Depression in arthritis	Psychoeducational interventions	8	9 studies	Weighted average ES estimates for depression ranged from +0.05 to +0.59. The weighted mean of the homogeneous set of ES estimates was 0.28 (95% CI 0.15 to 0.42). The experimental group had a 22% improvement over the control group. Value of psychoeducation unclear
O'Malley <i>et al</i> (1999)	Medically unexplained physical symptoms	Antidepressants	8	94 RCTs	Odds ratios were: chronic headache, OR=3.4 (95% CI 2.7 to 4.4); fibromyalgia, OR=5.1 (95% CI 3.1 to 8.5); functional gastrointestinal disorders, OR=4.4 (95% CI 2.5 to 7.7); idiopathic pain, OR=2.0 (95% CI 1.4 to 2.8). Four patients (95% CI 3 to 7) would need to be treated to improve one additional patient's condition. A meta-analysis for continuous outcomes gave a pooled standardised mean difference of 0.87 (95% CI 0.59 to 1.14)
Price & Couper (2002)	Chronic fatigue syndrome	CBT	8	3 RCTs	It is necessary to treat two patients to prevent one additional unsatisfactory physical outcome about 6 months after treatment end (NNT=2); CBT appeared highly acceptable to the patients in these trials. No satisfactory evidence for the effectiveness of CBT for this syndrome in primary or in-patient care or as a group intervention
Sheard & Maguire (1999)	Preventing anxiety and depression in patients with cancer	Psychological interventions	5-7	Anxiety 19, depression 20	Combined effect sizes: preventing anxiety, ES=0.42 (95% CI 0.08 to 0.74), $n=1023$ ; preventing depression, combined ES=0.36 (95% CI 0.06 to 0.66), $n=1101$ . Both in favour of treatment v. no-treatment controls. A more robust estimate of mean effect, taking into account study quality, is 0.19. Group therapy is as good as individual therapy. Psychoeducation is helpful in both anxiety and depression. Interventions may be more effective in those considered more at risk
Tomkins <i>et al</i> (2001)	Chronic headache	Antidepressants	8	38 RCTs	Headache improvement with antidepressants: rate ratio 2.0 (95% CI 1.6 to 2.4). Clinicians would need to treat 4 patients for 1 patient to improve. The average amount of improvement (standardised mean difference) was 0.94 (95% CI 0.65 to 1.2). Treated patients used less analgesic medication (standardised mean difference 20.7, 95% CI 20.5 to 20.94). No difference between antidepressants or type of headache. Assessment of depression across studies was insufficient to determine whether the effects were independent of depression
Van der Sande <i>et al</i> (1997)	Self-harm	All interventions	5-7	15 RCTs	Psychiatric management of poor compliance (RR=0.81, 95% CI 0.6 to 1.2), psychosocial crisis intervention and guaranteed in-patient shelter in cases of emergency showed no significant effect on the repetition of suicide attempts. Cognitive-behavioural therapies showed a significant preventive effect on repeated suicide attempts (relative risk reduction 50%, 95% CI 20 to 70), but small sample sizes

CBT, cognitive-behavioural therapy; DBT, dialectical behaviour therapy; EPS, extrapyramidal symptoms; ES, effect size; NNH, number needed to harm; NNT, number needed to treat; OR, odds ratio; RCT, randomised controlled trial; RR, relative risk; TAU, treatment as usual; WMD, weighted mean difference.



**Table 3** Included reviews without meta-analyses (48 reviews)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Akehurst (2001)	Irritable bowel syndrome	Psychotropic medication	5–7	2 RCTs	Amineptine improved depressed mood, retardation and cognitive dysfunction. Combination bupropion, metiodide and haloperidol improved symptoms and global functioning
Allen <i>et al</i> (2002)	Somatization disorder	Psychosocial treatments	5–7	34 RCTs	The authors were unable to draw clear conclusions from the data
Barsevick <i>et al</i> (2002)	Depressive symptoms in cancer patients	Psychoeducation	8	36 RCTs	In 22 of 36 RCTs psychoeducation interventions improved depressive symptoms
Brandt <i>et al</i> (2002)	Irritable bowel syndrome	Antidepressants and behavioural therapy	8	32 RCTs	Symptoms improved with desipramine, trimipramine, doxepin and behavioural therapy (11/16 studies) but not with amitriptyline
Britton (2002)	Delirium in patients with chronic cognitive impairment	Multidisciplinary team interventions	8	0 RCT	No study in this area
Carter <i>et al</i> (1996)	Drug-induced delirium	All interventions	5–7	0 RCT	No study in this area
Cole <i>et al</i> (1996)	Delirium in hospitalised patients	Nursing, psychiatric and educational interventions	8	3 RCTs (7 non-RCTs)	In middle-aged cardiac surgery patients, nursing, psychiatric and educational interventions (also in elderly orthopaedic patients) decreased rates of delirium. Not in elderly medical patients
Cole <i>et al</i> (1998)	Delirium	All interventions	8	23 studies (7 RCTs)	Many interventions prevented delirium in young and old surgical patients but not in elderly medical patients. Haloperidol, chlorpromazine and mianserin worked in all populations
Cole <i>et al</i> (2001)	Post-stroke depression in elderly medical patients	Antidepressants	8	4 RCTs (9 non-RCTs)	Heterocyclics and citalopram improved depressive symptoms and activities of daily living
Cummings (1992)	Depression in Parkinson's disease	Antidepressants	5–7	4 studies	Imipramine, nortriptyline, desipramine and bupropion have some efficacy in the treatment of depression in Parkinson's disease
Devine & Cook (1986)	Recovery, pain, well-being and satisfaction in hospitalised adult surgery patients	Psychoeducational interventions	8	102 studies	Statistically reliable and positive effects were found on each of the four classes of outcome
Dyer <i>et al</i> (1995)	Postoperative delirium	Education, psychiatric interview, treatment protocol	8	3 RCTs	Education resulted in more personal control. Psychiatric interview decreased morbidity and length of stay. Treatment protocol decreased the delirium rate
El-Serag <i>et al</i> (2002)	Quality of life in irritable bowel syndrome	CBT	8	1 RCT	There were significant positive changes in health-related quality of life

(continued)

**Table 3** (continued)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Fick <i>et al</i> (2002)	Delirium superimposed on dementia	Geriatric consultation, orientation strategies and therapeutic activities	8	1 RCT, 1 CCT	Orientation strategies and therapeutic activities significantly decreased rates of delirium in people with dementia. Geriatric consultation significantly decreased delirium in an elderly surgical population for those with and without dementia
Fishbain <i>et al</i> (1998)	Analgesia in somatoform pain disorder	Antidepressants	8	11 studies	Antidepressants led to significant reduction in pain intensity for overall pain, headache and mixed pain ( $P < 0.01$ )
Forbes (1998)	Behavioural symptoms in Alzheimer's dementia	Walking, simulated presence, bright light and calming music therapy	8	27 studies	Planned walking programme reduced aggressive incidents. Possible value of simulated presence therapy, bright light therapy and calming music for improving aggressive or agitated behaviour
Goodnick <i>et al</i> (1995)	Depression in diabetes mellitus	Antidepressants	5–7	28 studies	The authors were unable to draw clear conclusions from the data
Gordon & Hibbard (1997)	Post-stroke depression	All interventions	5–7	225 studies	The authors were unable to draw clear conclusions from the data
Guthrie (1996)	Emotional disorder in chronic illness (chronic organic disorder and somatisation)	Psychotherapeutic interventions	5–7	14 studies	Early intervention may be preventive; CBT for atypical chest pain, irritable bowel syndrome and functional dyspepsia, and dynamic therapy for refractory irritable bowel syndrome are helpful
Hadhazy <i>et al</i> (2000)	Fibromyalgia syndrome	Mind–body therapy	8	13 RCTs	There was strong evidence that exercise of moderate to high intensity was more effective than mind–body therapy
Howland (1993)	Dysthymia and medical illness	All interventions	5–7	Uncontrolled studies	Non-tricyclic antidepressants might be most useful for treating dysthymia in medical illness
Jailwala <i>et al</i> (2000)	Irritable bowel syndrome	Psychotropic medication	8	7 RCTs	Amitriptyline, nortriptyline, desipramine were beneficial for treating the symptoms of irritable bowel syndrome
Karjalainen <i>et al</i> (2002)	Fibromyalgia	Multidisciplinary rehabilitation	8	7 RCTs	The authors were unable to draw clear conclusions from the data
Kennedy & Feldmann (1994)	Preventing self-inflicted eye injuries	All interventions	5–7	41 cases	The authors were unable to draw clear conclusions from the data
Klaassen <i>et al</i> (1995)	Depression in Parkinson's disease	Antidepressants, selegiline v. placebo	8	12 RCTs	The authors were unable to draw clear conclusions from the data
Kroenke & Swindle (2000)	Somatisation disorder and symptoms	CBT	8	29 RCTs and 2 CCTs	Physical symptoms significantly improved in 20 of 28 studies. Only 10 of 26 reported significant improvement in psychological distress; 9 of 19 reported significant improvement in function
Krupnick <i>et al</i> (1993)	Cancer patients	Professionally led support groups (counselling, coping skills)	5–7	12 studies (3 RCTs)	Professionally led support groups were significantly better than treatment as usual on a wide range of outcome measures

(continued)

**Table 3** (continued)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Lonergan <i>et al</i> (2002)	Agitated dementia	Haloperidol	8	5 RCTs	There was no significant improvement in agitation but aggression did decrease. No significant difference in withdrawal rates
Lovejoy & Mattreis (1997)	Cancer-related depression	Psychological therapies	5-7	10 RCTs (5 individual, 5 group)	Simple, brief therapy (< 6 sessions) was effective for mild cancer-related depression. Severely depressed participants responded best to individual CBT. Directive cognitive restructuring was best for patients who were newly treated, able to share feelings, and had mild depression (effect not as lasting as in patient-directed group)
Ly <i>et al</i> (2002)	Depression in palliative care patients	Pharmacological interventions	8	3 RCTs	The authors were unable to draw clear conclusions from the data about the treatment of depression in this patient group
Miller & Cohen (2001)	Increase immune response	Stress management, hypnosis, relaxation, disclosure	5-7	59 studies	There was no evidence to recommend any of these interventions, and one study suggested that disclosure interventions might actually reduce immune response
Mohr & Goodkin (1999)	Depression in multiple sclerosis	Insight-oriented, CBT and stress management groups, and desipramine	8	5 studies	Both psychotherapy and antidepressant therapy were useful in the treatment of depression in multiple sclerosis
Moore (1996)	Neuropsychiatric aspects of Sydenham's chorea	All interventions	5-7	Not specified	The authors were unable to draw clear conclusions from the data
Newell <i>et al</i> (2002)	Anxiety, depression and functioning in cancer patients	Psychological therapies	8	34 RCTs	Group therapy, education, structured and unstructured counselling and CBT helped with psychosocial outcomes; relaxation training and guided imagery helped with side-effects; nothing increased survival time
NHS Centre for Reviews and Dissemination (2002)	Chronic fatigue syndrome	All interventions	8	38 RCTs	Treatment with CBT, graded exercise therapy, homoeopathy, magnesium, fatty acids, massage and general supplements showed beneficial effects. Antiviral interventions, antidepressants, anticholinergics, corticosteroids showed no consistent effects
Okamoto <i>et al</i> (1997)	Psychiatric disturbance in primary hyperparathyroidism	Parathyroidectomy	8	1 before and after study	Psychiatric symptoms were significantly reduced after parathyroidectomy
Opie <i>et al</i> (1999)	Behavioural disturbance in dementia	Non-pharmacological interventions	8	43 studies (5 RCTs)	Activity and music interventions proved successful in reducing agitated behaviour. Light therapy increased night-time sleep
Patten & Metz (1997)	Depression in multiple sclerosis	CBT, group psychodynamic psychotherapy, desipramine	8	3 RCTs	Group CBT, psychodynamic psychotherapy and desipramine improved depression
Pratt <i>et al</i> (2002)	Agitation in dementia	Divalproex sodium	5-7	1 RCT	No effect

(continued)



**Table 3** (continued)

Reference	Topic	Relevant interventions	Quality rating	Search results	Main findings
Repper (1999)	Reducing suicide in adults	Interventions in accident and emergency department	5–7	7 studies	Problem-solving intervention was probably better than no intervention at all, particularly for people at high risk of repeating self-harm, women and people with relationship problems
Rose et al (2002)	Anxiety and panic in patients with chronic obstructive pulmonary disease	Psychological treatments	5–7	6 RCTs	No study was adequately designed to provide an assessment of psychological intervention aimed at anxiety in this disorder
Schneider et al (1990)	Dementia	Neuroleptic medication (typical antipsychotics)	8	33 studies	Neuroleptics had a small effect in agitated dementia and no one typical neuroleptic had a better effect than another
Smith (1992)	Depression and pain or somatisation	Benzodiazepines and antidepressants	5–7	2 RCTs	Alprazolam was significantly more effective than amitriptyline (6 weeks) for somatisation with major depression
Soo et al (2002)	Non-ulcer dyspepsia	Group support, CBT and psychodynamic–interpersonal therapy	8	3 RCTs	All interventions significantly reduced dyspepsia compared with the control, but only one study showed continued effect at 1 year. No study showed a significant change in psychological outcomes
Stones & Mounfield (2002)	Chronic pelvic pain in women	Sertraline	8	1 RCT	Sertraline was not beneficial compared with control for the treatment of chronic pelvic pain
Talley (1991)	Irritable bowel syndrome	Psychological therapies	8	14 studies (poor quality)	Psychological therapy was significantly superior to control for primary symptoms of irritable bowel syndrome in eight studies; five found no difference and one did not report whether there was a difference
Trevisani et al (2002)	Neuropsychiatric complications of systemic lupus erythematosus	Cyclophosphamide v. methylprednisolone	8	0 RCT	No study in this area
Turner-Stokes & Hassan (2002)	Post-stroke depression	Antidepressants	5–7	6 RCTs	Tricyclic antidepressants, trazodone and SSRIs all showed significant improvement compared with placebo. Tricyclics and fluoxetine trials had significant withdrawals due to side-effects
Whiting et al (2001)	Chronic fatigue syndrome	All interventions	8	44 studies (36 RCTs)	Eighteen trials (41%) showed an overall beneficial effect of the intervention. Cognitive–behavioural therapy and graded exercise therapy showed significant effects
Whyte & Mulsant (2002)	Post-stroke depression	Biological interventions	5–7	6 RCTs	Tricyclic antidepressants, trazodone and SSRIs all showed significant improvement compared with placebo. Tricyclics and fluoxetine trials had significant withdrawals due to side-effects

CBT, cognitive–behavioural therapy; CCT, controlled clinical trial; RCT, randomised controlled trial; SSRI, selective serotonin reuptake inhibitor.

**Table 4** Areas covered by our review for which there is no quality systematic review of the literature (bullet point indicates absence of reviews)

	Assessment and advice	Biological interventions	Psychological interventions	Service	Package of interventions <sup>1</sup>	Other intervention
Abnormal illness behaviour	•	•	•	•	•	•
Adjustment to chronic illness	•	•	•	•	•	•
Body image problems	•	•	•	•	•	•
Cardiovascular disorders	•	•	•	•	•	•
Dermatological disorders	•	•	•	•	•	•
Endocrine disorders	•			•	•	•
Gastrointestinal disorders	•		•	•	•	•
General physical illness						•
Haematological disorders	•	•		•	•	•
Immunology	•	•		•	•	•
Injuries	•	•	•	•	•	•
Multisystem physical illness	•		•	•	•	•
Musculoskeletal disorders	•		•	•	•	•
Neurological disorders	•			•		•
Oncological disorders	•			•		
Renal disorders	•	•	•	•	•	•
Respiratory disorders	•	•		•	•	•
Surgery				•		
Somatisation disorders	•			•		
Somatoform disorders	•			•		
Chronic fatigue syndrome	•			•		
Hypochondriasis	•			•		
Unexplained physical symptoms	•			•		
Factitious disorder	•	•	•	•	•	•
Dissociative disorder	•	•	•	•	•	•
Self-harm <sup>2</sup>						

1. Two or more interventions, or one plus a social intervention.  
 2. Alone or in the context of psychiatric disorder or psychosocial problems.

benefit, it would be difficult to use this evidence to guide service planning. Future research should be more service-oriented, researching common interventions in liaison psychiatry such as assessment and advice, and whole service interventions. It should also focus on common problem areas encountered in clinical practice, and ensure that outcomes of importance to patients are included.

**ACKNOWLEDGEMENTS**

This meta-review was sponsored by Priorities and Needs, Research and Development funding from the Leeds Mental Health Trust. We thank members of the European Association of Consultation Liaison Psychiatry and Psychosomatics, the Liaison JISCmail group and the Trent, Yorkshire and North East Liaison Psychiatry Network who supplied references for inclusion.

**REFERENCES**

**Akehurst, K. (2001)** Treatment of irritable bowel syndrome: a review of randomised controlled trials. *Gut*, **48**, 272–282.

**Allen, L., Escobar, J., Lehrer, P., et al (2002)** Psychosocial treatments for multiple unexplained physical symptoms: a review of the literature. *Psychosomatic Medicine*, **64**, 939–950.

**Anie, K. & Green, J. (2002)** Psychological therapies for sickle cell disease and pain. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Anie, K. & Massaglia, P. (2002)** Psychological therapies for thalassaemia. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Barsevick, A. M., Sweeney, C., Haney, E., et al (2002)** A systematic qualitative analysis of psychoeducational interventions for depression in patients with cancer. *Oncology Nursing Forum*, **29**, 73–84.

**BMJ (2002)** *Clinical Evidence Concise*, issue 8. London: BMJ Publishing Group.

**Brandt, L., Locke, G. R., Olden, K., et al (2002)** An evidence-based approach to the management of irritable bowel syndrome in North America. *American Journal of Gastroenterology*, **97** (suppl. 11), S1–S26.

**Britton, A. & Russell, R. (2002)** Multidisciplinary team interventions for delirium in patients with chronic cognitive impairment. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Carter, G. L., Dawson, A. H. & Lopert, R. (1996)** Drug-induced delirium. Incidence, management and prevention. *Drug Safety*, **15**, 291–301.

**Cole, M. G., Primeau, F. & McCusker, J. (1996)** Effectiveness of interventions to prevent delirium in hospitalized patients: a systematic review. *Canadian Medical Association Journal*, **155**, 1263–1268.

**Cole, M. G., Primeau, F. J. & Elie, L. M. (1998)** Delirium: prevention, treatment and outcome studies. *Journal of Geriatric Psychiatry and Neurology*, **11**, 126–137.

**Cole, M. G., Elie, L. M., McCusker, J., et al (2001)** Feasibility and effectiveness of treatments for post-stroke depression in elderly inpatients: systematic review. *Journal of Geriatric Psychiatry and Neurology*, **14**, 37–41.

**Cummings, J. L. (1992)** Depression and Parkinson's disease: a review. *American Journal of Psychiatry*, **149**, 443–454.

**Davidson, M., Weiser, M. & Soares, K. (2000)** Novel antipsychotics in the treatment of psychosis and aggression associated with dementia: a meta-analysis of

randomized controlled clinical trials. *International Psychogeriatrics*, **12** (suppl. 1), 271–277.

**Department of Health (2001)** *Treatment Choice in Psychological Therapies and Counselling. Evidence Based Clinical Practice Guidelines*. London: Department of Health.

**Devine, E. C. & Cook, T. D. (1986)** Clinical and cost-saving effects of psychoeducational interventions with surgical patients: a meta-analysis. *Research in Nursing and Health*, **9**, 89–105.

**Dyer, C. B., Ashton, C. M. & Teasdale, T. A. (1995)** Postoperative delirium. A review of 80 primary data-collection studies. *Archives of Internal Medicine*, **155**, 461–465.

**Egger, M., Davey Smith, G. & Altman, D. (2001)** *Systematic Reviews in Healthcare: Meta-analysis in Context*. London: BMJ Publishing.

**El-Serag, H. B., Olden, K. & Bjorkman, D. (2002)** Health-related quality of life among persons with irritable bowel syndrome: a systematic review. *Alimentary Pharmacology and Therapeutics*, **16**, 1171–1185.

**Fick, D. M., Agostini, J. V. & Inouye, S. K. (2002)** Delirium superimposed on dementia: a systematic review. *Journal of the American Geriatrics Society*, **50**, 1723–1732.

**Fishbain, D. A., Cutler, R. B., Rosomoff, H. L., et al (1998)** Do antidepressants have an analgesic effect in psychogenic pain and somatoform pain disorder? A meta-analysis. *Psychosomatic Medicine*, **60**, 503–509.

**Forbes, D. A. (1998)** Strategies for managing behavioural symptomatology associated with dementia. *Journal of Nursing Research*, **30**, 67–86.

**Gill, D. & Hatcher, S. (2002)** Antidepressants for depression in medical illness. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Goodnick, P. J., Henry, J. H. & Buki, V. M. (1995)** Treatment of depression in patients with diabetes mellitus. *Journal of Clinical Psychiatry*, **56**, 128–136.

**Gordon, W. A. & Hibbard, M. R. (1997)** Poststroke depression: an examination of the literature. *Archives of Physical Medicine and Rehabilitation*, **78**, 658–663.

**Guthrie, E. (1996)** Emotional disorder in chronic illness: psychotherapeutic interventions. *British Journal of Psychiatry*, **168**, 265–273.

**Hadhazy, V. A., Ezzo, J., Creamer, P., et al (2000)** Mind–body therapies for the treatment of fibromyalgia. A systematic review. *Journal of Rheumatology*, **27**, 2911–2918.

**Hawton, K., Townsend, E., Arensman, E., et al (2002)** Psychosocial and pharmacological treatments for deliberate self harm. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Howe, A., Hendry, J. & Potokar, J. (2003)** A survey of liaison psychiatry services in the south-west of England. *Psychiatric Bulletin*, **27**, 90–92.

**Howland, R. H. (1993)** General health, health care utilization, and medical comorbidity in dysthymia. *International Journal of Psychiatry in Medicine*, **23**, 211–238.

**Jailwala, J., Imperiale, T. F. & Kroenke, K. (2000)** Pharmacologic treatment of the irritable bowel syndrome: a systematic review of randomized, controlled trials. *Annals of Internal Medicine*, **133**, 136–147.

**Karjalainen, K., Malmivaara, A., van Tulder, M., et al (2002)** Multidisciplinary rehabilitation for fibromyalgia and musculoskeletal pain in working age adults. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

## CLINICAL IMPLICATIONS

- There is a lack of systematic review evidence for interventions in liaison psychiatry.
- Much practice in liaison psychiatry must therefore be based on lower-quality evidence or extrapolation.
- Deciding on the implications of this evidence for planning and delivering liaison psychiatry services is not straightforward, since evidence must be integrated with other factors such as policy, financial constraints and values.

## LIMITATIONS

- We included only systematic reviews, but in some areas there may be large clinical trials that guide practice.
- Areas of practice that might be considered a part of liaison psychiatry were excluded.
- This meta-review will soon become out of date, as new reviews are published.

RACHEL RUDDY, MRCPsych, ALLAN HOUSE, MRCPsych, Academic Unit of Psychiatry and Behavioural Sciences, University of Leeds, Leeds, UK

Correspondence: Dr Rachel Ruddy, Academic Unit of Psychiatry and Behavioural Sciences, University of Leeds, Leeds LS2 9LT, UK. Tel: +44 (0) 113 343 2741; fax: +44 (0) 113 243 3719; e-mail: R.A.Ruddy@leeds.ac.uk

(First received 18 May 2004, final revision 11 November 2004, accepted 6 January 2005)

**Kennedy, B. L. & Feldmann, T. B. (1994)** Self-inflicted eye injuries: case presentations and a literature review. *Hospital and Community Psychiatry*, **45**, 470–474.

**Klaassen, T., Verhey, F. R., Sneijders, G. H., et al (1995)** Treatment of depression in Parkinson's disease: a meta-analysis. *Journal of Neurosychiatry and Clinical Neurosciences*, **7**, 281–286.

**Kroenke, K. & Swindle, R. (2000)** Cognitive–behavioural therapy for somatization and symptom syndromes: a critical review of controlled clinical trials. *Psychotherapy and Psychosomatics*, **69**, 205–215.

**Krupnick, J. L., Rowland, J. H., Goldberg, R. L., et al (1993)** Professionally-led support groups for cancer patients: an intervention in search of a model. *International Journal of Psychiatry in Medicine*, **23**, 275–294.

**Kugler, J., Seelbach, H. & Kruskemper, G. M. (1994)** Effects of rehabilitation exercise programmes on anxiety and depression in coronary patients: a meta-analysis. *British Journal of Clinical Psychology*, **33**, 401–410.

**Lancot, K. L., Best, T. S., Mittmann, N., et al (1998)** Efficacy and safety of neuroleptics in behavioral disorders associated with dementia. *Journal of Clinical Psychiatry*, **59**, 550–561.

**Loneragan, E., Luxenberg, J. & Colford, J. (2002)** Haloperidol for agitation in dementia. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Lovejoy, N. C. & Matteis, M. (1997)** Cognitive–behavioural interventions to manage depression in patients with cancer: research and theoretical initiatives. *Cancer Nursing*, **20**, 155–167.

**Ly, K. L., Chidgey, J., Addington-Hall, J., et al (2002)** Depression in palliative care: a systematic review. Part 2. Treatment. *Palliative Medicine*, **16**, 279–284.

**Meyer, T. J. & Mark, M. M. (1995)** Effects of psychosocial interventions with adult cancer patients: a meta-analysis of randomized experiments. *Health Psychology*, **14**, 101–108.

**Miller, G. E. & Cohen, S. (2001)** Psychological interventions and the immune system: a meta-analytic review and critique. *Health Psychology*, **20**, 47–63.

**Mohr, D. C. & Goodkin, D. E. (1999)** Treatment of depression in multiple sclerosis: review and meta-analysis. *Clinical Psychology Science and Practice*, **6**, 1–9.

**Moore, D. P. (1996)** Neuropsychiatric aspects of Sydenham's chorea: a comprehensive review. *Journal of Clinical Psychiatry*, **57**, 407–414.

**Mullen, P., Laville, E., Biddle, A., et al (1987)** Efficacy of psychoeducational interventions on pain, depression and disability in people with arthritis. *Journal of Rheumatology*, **14** (suppl. 15), 33–39.

**Naylor, D. C. (1995)** Grey zones of clinical practice. *Lancet*, **345**, 841–842.

**Newell, S. A., Sanson-Fisher, R. W. & Savolainen, N. J. (2002)** Systematic review of psychological therapies for cancer patients: overview and recommendations for future research. *Journal of the National Cancer Institute*, **94**, 558–584.

**NHS Centre for Reviews and Dissemination (2002)** Interventions for the management of CFS/ME. *Effective Health Care Bulletin*, **7**, 1–12.

**Okamoto, T., Gerstein, H. C. & Obara, T. (1997)** Psychiatric symptoms, bone density and non-specific

symptoms in patients with mild hypercalcemia due to primary hyperparathyroidism: a systematic overview of the literature. *Endocrine Journal*, **44**, 367–374.

**O'Malley, P. G., Jackson, J. L., Santoro, J., et al (1999)** Antidepressant therapy for unexplained symptoms and symptom syndromes. *Journal of Family Practice*, **48**, 980–990.

**Opie, J., Rosewarne, R. & O'Connor, D. W. (1999)** The efficacy of psychosocial approaches to behaviour disorders in dementia: a systematic literature review. *Australian and New Zealand Journal of Psychiatry*, **33**, 789–799.

**Oxman, A. D. & Guyatt, G. H. (1988)** Guidelines for reading literature reviews. *Canadian Medical Association Journal*, **138**, 697–703.

**Patten, S. B. & Metz, L. M. (1997)** Depression in multiple sclerosis. *Psychotherapy and Psychosomatics*, **66**, 286–292.

**Peveler, R., Feldman, E. & Friedman, T. (2000)** *Liaison Psychiatry: Planning Services for Specialist Settings*. London: Gaskell.

**Pratt, C. E., Davis, S. M., Nazario, M., et al (2002)** Divalproex sodium therapy in elderly with dementia-related agitation. *Annals of Pharmacotherapy*, **36**, 1625–1628.

**Price, J. R. & Couper, J. (2002)** Cognitive behaviour therapy for chronic fatigue syndrome in adults. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Repper, J. (1999)** A review of the literature on the prevention of suicide through interventions in Accident

and Emergency Departments. *Journal of Clinical Nursing*, **8**, 3–12.

**Rose, C., Wallace, L., Dickson, R., et al (2002)** The most effective psychologically-based treatments to reduce anxiety and panic in patients with chronic obstructive pulmonary disease (COPD): a systematic review. *Patient Education and Counseling*, **47**, 311–318.

**Ruddy, R. A. & House, A. H. (2003)** A standard liaison psychiatry service structure? A study of the liaison psychiatry services within six strategic health authorities. *Psychiatric Bulletin*, **27**, 457–460.

**Schneider, L. S., Pollock, V. E. & Lyness, S. A. (1990)** A metaanalysis of controlled trials of neuroleptic treatment in dementia. *Journal of the American Geriatrics Society*, **38**, 553–563.

**Scott, A., Shaw, M. & Joughin, C. (eds) (2001)** *Finding the Evidence: a Gateway to the Literature in Child and Adolescent Mental Health* (2nd edn). London: Gaskell.

**Sheard, T. & Maguire, P. (1999)** The effect of psychological interventions on anxiety and depression in cancer patients: the results of two metaanalyses. *British Journal of Cancer*, **80**, 1770–1780.

**Smith, G. R. (1992)** The epidemiology and treatment of depression when it coexists with somatoform disorders, somatization, or pain. *General Hospital Psychiatry*, **14**, 265–272.

**Soo, S., Moayyedi, P., Deeks, J., et al (2002)** Psychological interventions for non-ulcer dyspepsia. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Stones, R. W. & Mountfield, J. (2002)** Interventions for treating chronic pelvic pain in women. *Cochrane*

*Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Talley, N. J., Owen, B. K. & Boyce, P. (1991)** Psychological treatments for irritable bowel syndrome. *American Journal of Gastroenterology*, **91**, 277–286.

**Tomkins, G. E., Jackson, J. L., O'Malley, P. G., et al (2001)** Treatment of chronic headache with antidepressants: a meta-analysis. *American Journal of Medicine*, **111**, 54–63.

**Trevisani, V. F. M., Castro, A. A., Neves Neto, J. F., et al (2002)** Cyclophosphamide versus methylprednisolone for treating neuropsychiatric involvement in systemic lupus erythematosus. *Cochrane Database of Systematic Reviews*, issue 4. Oxford: Update Software.

**Turner-Stokes, L. & Hassan, N. (2002)** Depression after stroke: a review of the evidence base to inform the development of an integrated care pathway. Part 2: Treatment alternatives. *Clinical Rehabilitation*, **16**, 231–247.

**Van der Sande, R., Buskens, E., Allart, E., et al (1997)** Psychosocial intervention following suicide attempt: a systematic review of treatment interventions. *Acta Psychiatrica Scandinavica*, **96**, 43–50.

**Whiting, P., Bagnall, A. M., Sowden, A. J., et al (2001)** Interventions for the treatment and management of chronic fatigue syndrome: a systematic review. *JAMA*, **286**, 1360–1368.

**Whyte, A. M. & Mulsant, B. H. (2002)** Post stroke depression: epidemiology, pathophysiology and biological treatment. *Biological Psychiatry*, **52**, 253–264.