Effect of psychiatric consultation models in primary care: a systematic review and meta-analysis of randomized clinical trials

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CRD summary
This review concluded that psychiatric consultation appears effective for patients with somatoform and depressive disorder in primary care settings, particularly for reductions in utilisation of health care services. The review had a number of limitations that suggested the findings should be interpreted with some caution.

Authors' objectives
To determine the effects of psychiatric consultation models on different diseases in primary care.

Searching
PubMed, PsycINFO, EMBASE and The Cochrane Library were searched up to 2009. Search terms were reported. No language restrictions were applied. Reference lists of selected trials and reviews were searched for further studies. Personal files of workgroup members were checked, topic experts contacted and resources in the Netherlands Institute of Mental Health and Addiction were consulted.

Study selection
Randomised controlled trials (RCTs) of adequately described psychiatric consultation interventions were eligible for inclusion in the review if they reported separate quantitative outcomes in comparison with usual care in primary care patients. Eligible interventions were psychiatric consultations alone performed by a psychiatrist seeing a patient and giving advice to the family physician or psychiatric consultations as part of a collaborative approach. Studies of collaborative care that did not specifically mention the involvement of a psychiatrist were excluded. Also excluded were studies of consultations with psychologists or mental health nurses and telemedicine consultations. Studies of patients with medical comorbidities were included. Studies were allowed to randomise according to patients, general practices and family physicians. Eligible studies had to objectively assess the impact of the intervention on either the general health, well-being and functioning of the patient or their health care usage.

Some of the reported interventions included a consultation letter. Intervention types varied with respect to setting and types of personnel involved in giving/supervising the psychiatric consultation. Patients were diagnosed with depression (persistent, late life and comorbid), medically unexplained symptoms, distressed high utilisers of the healthcare system and somatisation disorder. Settings included clinics from health maintenance organisations, general practices and family physicians.

The authors did not state how many reviewers assessed studies for inclusion.

Assessment of study quality
Two reviewers independently assessed the methodological quality of each study using Cochrane quality criteria of randomisation, allocation concealment, blinding, completeness of follow-up, selective outcome reporting and other biases.

Data extraction
Data on general functioning, health care usage, psychological symptoms and medical symptoms were extracted and used to calculate effect sizes. Means were calculated for continuous outcomes and standardised effects sizes (Cohen’s d) reported. Effect sizes 0.56 to 1.2 were judged to represent a large effect size, 0.33 to 0.55 a moderate effect size and zero to 0.32 a small effect size.

Two reviewers independently extracted study data.
Methods of synthesis
Pooled weighted mean differences (WMD) were calculated for continuous outcomes using a random-effects model. Statistical heterogeneity was assessed using the Q statistic and $I^2$ statistic. Subgroup analyses compared patients with somatoform and depressive disorders. Other analyses compared studies that assessed combined psychiatric consultation models versus a single model, type of psychiatric consultation, by outcome and whether the intervention included a consultation letter. Publication bias was assessed using a Begg funnel plot and fail-safe N.

Results of the review
Ten RCTs (n=3,408 patients) were included in the review. These included five cluster randomised studies (one of which also used a crossover design) and one follow-up study of the same patient group. Five trials were described as excellent quality, three studies were very good quality and two were good quality.

A combined analysis of illness burden (psychological symptoms, general functioning, medical symptoms and health care use) significantly favoured psychiatric consultation over usual care (WMD 0.313, 95% CI 0.190 to 0.437; 10 RCTs, small to moderate effect size, high statistical heterogeneity $I^2=68\%$).

Subgroup analysis reported a larger effect size in patients with somatoform disorder (WMD 0.614, 95% CI 0.206 to 1.022; four RCTs, large effect size, high statistical heterogeneity $I^2=72\%$) in comparison with depressive disorder (WMD 0.204, 95% CI 0.115 to 0.294, small effect size, medium heterogeneity $I^2=42\%$). Larger effect sizes were also reported for studies where consultation advice was given by consultation letter (WMD 0.561, 95% CI 0.337 to 0.786; four RCTs, large effect size, $I^2$ not reported) in comparison to studies where no letter was used (WMD 0.210, 95% CI 0.102 to 0.319; five RCTs, small effect size, $I^2$ not reported).

The largest effect size for different outcomes was reported for studies that assessed health care service utilisation (WMD 0.507, 95% CI 0.305 to 0.708, $I^2$ not reported). In comparisons of subgroup effects with different intervention models, the largest effect size was reported for studies of psychiatric consultation outside of the family practice, followed by advice in a consultation letter to the family physician (WMD 0.564, 95% CI 0.165 to 0.962, $I^2$ not reported).

Effect sizes for each different outcome and intervention model were reported. The authors reported that treatment effects differed between outcomes and types of intervention model, but not substantially.

No evidence of significant publication bias was found.

Authors' conclusions
Psychiatric consultation appeared effective for patients with somatoform and depressive disorder in primary care settings, particularly with respect to reductions in utilisation of health care services.

CRD commentary
This review assessed a clearly defined research question. The search comprised numerous literature sources, included grey literature and had no language restrictions, which reduced risks of publication and language biases. Risks of reviewer error and bias were reduced by independent data extraction and validity assessment; it was unclear how studies were selected for inclusion in the review. Methodological quality of the studies was assessed with relevant published criteria and varied between studies. Half of the included studies were judged to be excellent quality. Clinical characteristics of the studies varied and there was evidence of significant statistical heterogeneity between some studies. An attempt was made to investigate potential sources of heterogeneity in further analyses, but the small number of studies made these analyses likely to be underpowered.

The review included a mixture of types of RCTs that included cluster and individual patient RCTs. It was unclear whether trials that used a clustered randomisation method adequately controlled for the effects of clustering. It was unclear whether combining different types of RCTs was appropriate. Two RCTs appeared to use the same patient sample and both were included in some pooled analyses, which appeared to lead to data duplication. The authors acknowledged a number of other limitations that suggested their review was at risk of bias. There was a risk that the findings may not have been generalisable to other settings. Consequently, the review had a number of limitations that
suggested the findings should be interpreted with some caution.

**Implications of the review for practice and research**

**Practice:** The authors stated that family physicians should ask for a psychiatric consultation for patients with problems in general functioning, with medically unexplained symptoms and with a high health care utilisation. Primary care practices with patients who suffered from somatoform disorders and depression should have access to a psychiatric care model. Clear communication between family physicians and psychiatric consultants was important, as were consultation letters and meetings.

**Research:** The authors stated that further research into several elements of patient-centered psychiatric interventions should be carried out. Studies with clearly described interventions and that assessed treatment outcomes and effect sizes were needed. Studies that assessed techniques and instruments to identify patients in need of psychiatric consultation were required, as were cost-effectiveness studies and studies that assessed patients with other types of highly prevalent mental disorders (such as anxiety disorders).

**Funding**
None stated.

**Bibliographic details**

**PubMedID**
20488268

**DOI**
10.1016/j.jpsychores.2009.10.012

**Original Paper URL**
http://dx.doi.org/10.1016/j.jpsychores.2009.10.012

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Comorbidity; Cooperative Behavior; Cross-Over Studies; Depressive Disorder /diagnosis /therapy; Family Practice; Humans; Interdisciplinary Communication; Mental Disorders /diagnosis /therapy; Outcome and Process Assessment (Health Care); Primary Health Care; Psychiatry; Randomized Controlled Trials as Topic; Referral and Consultation; Somatoform Disorders /diagnosis /therapy

**AccessionNumber**
12010004667

**Date bibliographic record published**
06/10/2010

**Date abstract record published**
15/06/2011

**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on
the reliability of the review and the conclusions drawn.