CRD summary
This review assessed the effectiveness of nursing support groups for patients with cancer. The authors' overall conclusion, that support groups for patients with cancer are effective, should be viewed with caution. Possible duplication of participants in the analysis and poor reporting of the review process limit interpretation of the results.

Authors' objectives
To determine the effectiveness of nursing support groups for patients with cancer.

Searching
PubMed, the Cochrane Database of Systematic Reviews, DARE, CINAHL, PsycINFO, EMBASE, Sociofile, and the Spanish databases CUIDEN, BDIE and CUIDATGE were searched; the search terms were not reported. A manual search of specialised libraries was also carried out, and psycho-oncology experts were contacted for additional studies. Studies were included if they had been published since 1981.

Study selection

Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were eligible for inclusion if the authors considered they had 'good methodological quality' on the validity assessment tools and had 'sufficient power to combine with other studies in a meta-analysis'. No further details were reported in the review.

Specific interventions included in the review
Studies that included oncology support group interventions were eligible for inclusion. All interventions included multiple domains, such as information sessions, health education, physical training, coping-skills training, relaxation, problem-solving, cognitive-behavioural orientation, emotional support, activity pacing or breathing control, and communication strategies. Most of the interventions consisted of weekly meetings, ranging from 5 to 52 sessions and lasting between 1 and 2 hours, and most groups were led by a multidisciplinary professional group. The cognitive-behavioural model was used as the theoretical framework in the majority of studies.

Participants included in the review
Studies of cancer patients were eligible for inclusion. The participants of the majority of the studies included women with breast cancer, although other patient groups were also included: patients with different kinds of tumour, lung cancer, gynaecologic cancer, malignant melanoma and prostate cancer. The included participants were aged from 44 to 59 years old. The majority of them were also undertaking other treatment regimens, such as surgery, chemotherapy and/or radiotherapy, and hormone therapy.

Outcomes assessed in the review
Measures assessing illness adaptation, anxiety, depression, quality of life, survival, physical functioning, and family and marital relations were utilised in the review. The included studies used a variety of measures to assess the outcomes (details were reported).

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The methodological quality of the primary studies were assessed using the Jadad scale and the Consolidated Standards of Reporting Trials (CONSORT) checklist. The authors did not state who performed the quality assessment.
Data extraction
The authors did not state how the data were extracted from the primary studies, or how many reviewers performed the data extraction.

The standardised mean difference (SMD) and associated 95% confidence intervals (CIs) were calculated for all continuous variables.

Methods of synthesis
How were the studies combined?
The studies were combined in a meta-analysis, grouped by outcome variable (depression, anxiety, quality of life, adaptation and survival). Random-effects models were used when significant statistical heterogeneity was found (P<0.01 considered statistically significant), and efficacy estimates were reported as summary SMDs with 95% CIs.

How were differences between studies investigated?
Statistical heterogeneity was assessed using the chi-squared test. A subgroup analysis was performed by type of outcome measure within each outcome domain.

Results of the review
Twenty RCTs (n=1,620) were included; the sample sizes ranged from 14 to 199 participants.

Twelve studies reported data on depression; three different depression scales were included. The overall summary estimate showed a significant improvement in depression scores in support groups compared with control groups (SMD -0.63, 95% CI: -0.98, -0.28). Statistically significant heterogeneity was found (P<0.00001). One study was entered into the meta-analysis twice for two different depression measurements. Subgroup analysis by depression scale showed improved scores for the support group compared with controls in all the scales used (POMS, HADS, CES-D), although this was not statistically significant for CES-D (based on 1 small trial).

Eleven studies reported data on anxiety; five different anxiety scales were included. The overall summary estimate showed a significant reduction in anxiety (SMD -0.71, 95% CI: -1.04, -0.38). Statistically significant heterogeneity was found (P<0.00001). Four studies were entered into the meta-analysis more than once for different anxiety scales. While subgroup analysis by anxiety scale showed improved anxiety scores for support groups compared with controls in all the scales used (POMS tension-anxiety, RSCI psychological symptoms, HADS anxiety symptoms, MAC SCALE anxious preoccupation, and CFCS anxiety), it was only statistically significant for the POMS anxiety-tension scale (based on 7 trials) and the MAC SCALE (based on 4 RCTs). Statistically significant heterogeneity was shown for all subgroups with more than 2 trials included.

Six studies reported data on quality of life; five quality-of-life scales were included. The overall summary estimate showed a significant improvement in quality-of-life scores in the support group compared with the control group (SMD -0.63, 95% CI: -0.98, -0.28). Statistically significant heterogeneity was found (P<0.00001). The subgroup analysis showed an improvement in all quality-of-life measures (SF-36, FLIC, COOL, HAD control quality of life, and PRS pain sensation), although this was not statistically significant for HAD control quality of life (based on 2 trials).

Eight studies reported data on adaptation; four different scales were included. The overall summary estimate showed an improvement in adaptation scores (SMD -0.61, 95% CI: -1.04, -0.18). Statistically significant heterogeneity was found (P<0.00001). Subgroup analyses by adaptation scale showed an improvement in all scales (MAC scale fighting spirit, PAIS, NAS and SDS), although it was only statistically significant for MAC scale fighting spirit (based on 4 trials). No statistical heterogeneity was found for the subgroup analyses.

Three studies reported data on survival. No statistically significant difference in survival between support groups and controls was shown (SMD 0.22, 95% CI: -0.24, 0.68). Statistical heterogeneity was not reported.

Two studies reported data on marital relationships, each with a different scale (IMS or PAIS sexual relationships subscale). A significant improvement in marital relations was shown for support groups compared with controls (SMD
-1.63, 95% CI: -2.16, -1.09). Statistical heterogeneity was not reported.

**Authors' conclusions**
Support groups for patients with cancer are effective. Support group involvement was associated with improved emotional states, quality of life and marital relationships; however, improved survival for these patients was not confirmed.

**CRD commentary**
The review question was supported by relatively broad inclusion criteria in terms of the intervention and population. Only RCTs meeting unspecified quality criteria were included, and this lack of clarity meant it was not possible to evaluate the objectivity of the criteria. Several electronic databases were searched but, since the search terms were not reported, it was difficult to assess the adequacy of the strategy. However, experts in the area were contacted for additional studies. The procedures undertaken to select studies, extract the data, and evaluate quality were not described, thus it was not possible to assess the likelihood of error or bias being introduced at these stages. Whilst the methodological quality of the primary studies was evaluated using standardised assessments, the results were not reported.

There existed clinical heterogeneity between the studies in terms of psychotherapeutic technique, duration and delivery of treatment, concurrent therapeutic regimens and population; as such, a quantitative analysis might not have been appropriate. In addition, participants might have been included more than once in the overall summary estimates for outcomes incorporating different variable scales, as some studies included multiple measures for each outcome variable. Heterogeneity was assessed but not fully investigated where found. As a consequence of the above considerations, the results should be interpreted with caution.

**Implications of the review for practice and research**
Practice: The authors stated that the efficacy of support groups supports the inclusion of social support interventions as part of the practice of nursing professionals, and that the development of these groups for cancer patients could be carried out in the hospital setting or in the community.

Research: The authors stated that future meta-analyses should assess the psychometric characteristics of the tools used to measure each outcome variable and only include studies with reliable instruments. There is also a need for RCTs to evaluate the effects of oncology support groups on emotional state, illness adaptation, functionality and quality of life, and a need to compare different types of support groups including interventions that involve family members and significant others.

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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.