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## Patient decision aids for cancer treatment: are there any alternatives?

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### CRD summary

This well-conducted review concluded that patient decision aids and other decision support interventions for cancer treatment were similar in effectiveness. These conclusions reflected the evidence presented. Although the methods of synthesis were appropriate, the high or unclear risk of bias associated with many trials and the few patient characteristics reported mean that the conclusions should be interpreted with caution.

### Authors' objectives

To identify types of decision support interventions for breast, prostate, colorectal, and lung cancer treatments and to compare the effectiveness of these decision support interventions with patient decision aids.

### Searching

MEDLINE, EMBASE, CINAHL, Cochrane Database of Systematic Reviews, PsycINFO and HealthSTAR were searched from January 1990 up to June 2011. Search terms were reported. The search was limited to studies published in English. Reference lists of identified studies were also checked.

### Study selection

Randomised controlled trials (RCTs) that compared decision support interventions with standard care or alternative interventions were eligible for inclusion. Trials had to address decision-making in breast, prostate, colorectal and/or lung cancer. Decision support interventions were defined as interventions that helped the patient understand treatment options available to them with the aim of arriving at a meaningful decision in line with their individual values. Patient decision aids were defined as reporting at least one outcome in line with the International Patient Decision Aids Standards Collaboration, which allowed effectiveness comparisons with decision support interventions.

Most of the included trials investigated decision support interventions for breast cancer treatment. Prostate cancer and mixed cancers were investigated in the remaining trials. Just over half of the included trials compared decision support interventions with standard care; the other trials compared decision support interventions with alternative interventions. Interventions varied widely and included audio recordings, decision boards, computer based interventions, interviews and pamphlets, as well as several combinations of these. Control interventions included standard care, pamphlets, and generic interventions like videos and information packages. Interventions were delivered before, during, and after treatment across trials. In most trials, the interventions were patient-administered; administration by health professionals also occurred. Most trials were conducted in North America. Trials were published from 1995 to 2011. Demographic details of patients were not reported.

Three reviewers selected studies for inclusion. Discrepancies were resolved through discussion.

### Assessment of study quality

Trial quality was assessed using the Cochrane Collaboration's risk of bias tool.

Three reviewers independently assessed trial quality. Discrepancies were resolved through discussion.

### Data extraction

Outcome data were extracted from included trials to calculate standardised mean differences with 95% confidence intervals for the most immediate post-intervention follow-up point. Means and standard deviations were imputed for trials that reported medians and inter-quartile-ranges.

Three reviewers independently extracted data. Discrepancies were resolved through discussion.

### Methods of synthesis

Trials were synthesised by means of a random-effects meta-analysis to calculate pooled standardised mean differences with 95% confidence intervals. Standardised mean difference value of 0.20 was considered small, 0.50 as medium, and

0.80 as large.

The primary analyses compared effectiveness of patient decision aids with other decision support interventions. Patient decision aids were compared with other decision support interventions using subgroup analyses. Other comparisons were presented narratively.

$X^2$  and  $I^2$  were used to assess heterogeneity between trials. When significant heterogeneity was observed, sensitivity analyses were conducted by removing individual trials.

### Results of the review

Twenty-four RCTs (5,244 patients) were included in the review. Sample sizes ranged from 60 to 628 patients. Quality assessment indicated an unclear risk of selection bias across trials, as most trials did not appear to adequately describe randomisation procedures or allocation concealment. None of the trials blinded patients, personnel, or outcome assessors.

There was a significant increase in patient knowledge for both patient decision aids and other decision support interventions (SMD 0.31, 95% CI 0.19 to 0.42;  $I^2=37%$ ; nine trials). Twelve trials investigated the impact of patient decision aids and other decision support interventions. While none of the patient decision aids (six trials) or other decision support interventions (six trials) were associated with a significant change in patient satisfaction individually, the pooled result for both types of intervention suggested higher patient satisfaction in the intervention group (SMD 0.14, 95% CI 0.03 to 0.26;  $I^2=31$ ; 12 trials). Six trials that investigated other decision support interventions found a significant difference in patients' question asking behaviour between intervention and control groups (SMD 0.16, 95% CI 0.02 to 0.29;  $I^2=0%$ ). None of the patient decision aids (three trials), other decision support interventions (five trials), or both interventions taken together (eight trials) indicated any significant differences in patient anxiety between intervention and control groups. The same was true for patient decisional conflict (six trials).

Overall, there were no significant differences in knowledge, satisfaction, anxiety, or decisional conflict scores between patient decision aids and other decision support interventions.

### Authors' conclusions

Patient decision aids and other decision support interventions were similar in their effectiveness.

### CRD commentary

The review question and inclusion criteria were clear. Several relevant sources were searched. However, as searches were limited to studies published in English, potentially relevant unpublished studies and studies published in other languages may have been missed. The potential for publication bias was not assessed. The use of independent, duplicate processes for study selection, data extraction, and quality assessment reduced the risk of reviewer error and bias in the review process.

Appropriate methods were used to synthesise trials and to assess heterogeneity between them. A validated tool was used to assess trial quality and results of the quality assessment were reported clearly. However, trial quality did not appear to influence the analyses or authors' interpretation of results. This made it difficult to assess the impact of trial quality on the reliability of results. As few patient details were reported, it was difficult to assess the generalisability of the results.

The authors' conclusions reflected the evidence presented. Despite sound review processes and appropriate methods of synthesis, the high or unclear risk of bias associated with many trials and the lack of demographic patient information mean that the conclusions should be interpreted with some caution.

### Implications of the review for practice and research

**Practice:** The authors noted that simpler decision support interventions, such as question prompt lists and audio recordings, may be as effective as more involved patient decision aids.

**Research:** The authors recommended that future research should investigate decision support interventions administered by the treating physician to assess shared decision-making.

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