Racial differences in prostate cancer treatment outcomes: a systematic review

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CRD summary
This review examined the differences between races in treatment outcomes for prostate cancer. The authors' conclusion seemed to be that worse treatment outcomes do not appear to explain differences in prostate-cancer mortality between black and white men. The reliability of this conclusion is unclear, given the incomplete reporting of review methods, language restrictions and the lack of a validity assessment.

Authors' objectives
To examine the differences between races in treatment outcomes for prostate cancer.

Searching
MEDLINE, Cancerlit and CINAHL were searched for studies published in English between 1992 and 2002; the search terms were reported. The reference lists of identified studies were screened.

Study selection
Study designs of evaluations included in the review
The inclusion criteria for study design were not defined.

Specific interventions included in the review
Studies of radical prostatectomy, hormonal therapy and radiation therapy were eligible for inclusion.

Participants included in the review
Studies of black and white men receiving equal treatment for prostate cancer were eligible for inclusion. The included studies were undertaken in patients with varying disease severity (from stage 1 to stage 4 tumours) and included patients with metastatic and non-metastatic prostatic cancer. In most studies (69%) at least 20% of the participants were black.

Outcomes assessed in the review
Studies that assessed the difference between races in treatment outcomes were eligible for inclusion. The included studies assessed prostatic-specific antigen (PSA) failure, overall survival, disease-specific survival and disease-free survival. The studies followed up patients from at least 1 month to a median of 96 months.

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

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Two reviewers extracted the data and any differences were resolved through discussion. Data were extracted for measured outcomes: mean, standard deviation, 95% confidence intervals, median and range for continuous data, and frequencies for dichotomous data. Confounding factors included in the adjusted analyses were also extracted.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative and the number (percentage) of studies reporting a positive or no relationship...
between race and outcome was calculated.

How were differences between studies investigated?
Differences between the studies were discussed with respect to date of publication, study design, study location, outcomes measured, treatment, stage of disease and factors controlled for.

Results of the review
Twenty-nine studies (n=24,968) were included: 3 randomised controlled trials (n=3,661) and 26 retrospective studies of unspecified design.

Studies controlled for different confounders. Just under half of the studies (46%) controlled for age of onset, stage and grade of disease. Most studies did not report controlling for socioeconomic status and family history.

Twenty-three studies (79%) found no relationship between race and treatment outcomes.

There was no difference in outcomes for 10 (77%) of 13 studies assessing PSA failure or for 8 (73%) of 11 studies assessing overall or disease-free or disease-specific survival. Six studies (21%) found that the outcomes were worse among black men. Studies reporting a difference were more likely to be published in 1996 or before, to be in patients with metastatic disease, and were less likely to use radiotherapy treatment than studies reporting no difference.

No study found that white men had worse outcomes than black men.

Authors' conclusions
The review indicates that patients who undergo the same treatment have similar outcomes, irrespective of race. The authors therefore stated that efforts to narrow the racial gap in prostate cancer mortality should focus on ensuring that all populations are informed about screening for early detection and all patients receive optimal treatment.

CRD commentary
The review addressed a clear question that was defined in terms of the participants, intervention and outcomes; no inclusion criteria were reported for study design. Three relevant databases were searched, but restricting the primary studies to trials published in English raises the possibility of language and publication bias; the authors acknowledged this potential for publication bias. Methods were used to minimise errors and bias in the extraction of data, but it was unclear whether similar steps were taken at the study selection stage. The validity of the studies was not assessed, so the reliability of data derived from the included studies could not be fully assessed. Given the differences among studies, a narrative synthesis was appropriate and potential sources of difference between the studies were discussed and examined. The reliability of the authors' conclusion is unclear, given the incomplete reporting of review methods, the exclusion of non-English language studies and the lack of a validity assessment.

Implications of the review for practice and research
Practice: The authors stated that to narrow the disparity in mortality from prostate cancer-related mortality between black and white men, all patients should receive optimal treatment and information about screening for the early detection of cancer.

Research: The authors stated that research should focus on interventions to reduce presentation at an advanced stage of the disease and interventions to reduce disease-related mortality in black men. The authors further stated that a clearer understanding of the effectiveness of different treatment options is required, and that future studies addressing racial differences in outcome should control for socioeconomic factors and/or family history.

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