Are behavioral interventions for arthritis effective with minorities? Addressing racial and ethnic diversity in disability and rehabilitation

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CRD summary
The review concluded that little was known about whether evidence-based interventions for arthritis were effective for culturally diverse patients. The authors' conclusions appear appropriate, however, this review may be vulnerable to multiple important sources of bias and error.

Authors' objectives
To determine the effectiveness of behavioural interventions for arthritis for patients from minority racial/ethnic groups.

Searching
PubMed was searched from 1997 to 2008. Search terms were reported. Reference lists of articles were scanned for additional studies.

Study selection
Randomised controlled trials (RCTs) of psychosocial and exercise interventions for the treatment of patients with arthritis conducted in USA were eligible for inclusion. The outcomes of interest were pain, disability, depression and self-efficacy.

Interventions included in the included studies were diet and activity programs, aquatics programs, spouse-assisted pain coping skills, manual physical therapy and exercise programs, guided imagery and relaxation, t’ai chi, physical activity, inflammation and body composition and self-management treatment programs. Most of the included participants had osteoarthritis; some had rheumatoid arthritis. Participants were from white, non-white, African American and Hispanic ethnic/racial groups.

The authors stated neither how papers were selected for the review nor how many reviewers performed the selection.

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

Data extraction
Data were extracted on the percentage of participants from different racial/ethnic groups, effectiveness of interventions among minority participants, rates of attrition by racial/ethnic group and recruitment and retention of minority participants. The authors did not report how many reviewers extracted the data.

Methods of synthesis
Studies were combined in a narrative synthesis with additional data provided in a table.

Results of the review
Twenty five RCTs were included in the review. Six RCTs provided detailed information on racial and ethnic diversity. Eight RCTs reported the proportion of white and non-white participants, but reported no other racial or ethnic data. Eleven RCTs reported no information on racial or ethnic diversity.

Effectiveness of interventions for minority participants (two RCTs): One RCT reported that both black and white participants reported improvements in pain, disability and walking distance. A second RCT also found no differential effectiveness of treatment by racial or ethnic group.

Differential attrition by minority participants (six RCTs): One RCT reported greater rates of attrition for non-whites; five RCTs reported no significant differences in attrition based on race or ethnicity.
Recruitment and retention of minority participants (25 RCTs): One RCT reported the development of culturally sensitive recruitment materials; 24 RCTs reported no special efforts to recruit participants from minority groups.

Interventions appropriate for minority participants: No RCTs reported efforts to ensure that interventions were appropriate for the needs or preferences of minority participants.

Authors' conclusions
Little was known about whether evidence-based interventions for arthritis were effective for culturally diverse patients. Minority patients appeared to be under-represented in studies and little attention had been paid to minority recruitment and ensuring that interventions were culturally appropriate for diverse patients.

CRD commentary
Inclusion criteria were specified for study design, interventions and outcomes. Criteria were somewhat broad for participants. Only one database was searched and this may have resulted in the omission of other relevant studies. No attempts were made to limit publication bias. The inclusion only of studies conducted in the US meant that some relevant data may have been missed and that results of the review may not be generalisable to other settings. Methods used to select studies and extract data were not described, and so it was unknown whether efforts were made to reduce reviewer errors and bias. Study validity was not assessed, so results from these studies and any synthesis may not be reliable. Some characteristics of the included studies were presented in tables. Results for individual studies were reported without supporting data or levels of statistical significance, which meant that it was not possible to verify the findings reported in the review. A narrative synthesis was appropriate given the differences between studies in terms of interventions and outcomes. The authors' conclusions appears appropriate, but the review may be vulnerable to multiple important sources of bias and error.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that future research should report the proportion of participants from specific racial or ethnic groups. Where possible, studies should investigate whether interventions were similarly effective across racial or ethnic subgroups. In addition, future studies should evaluate whether interventions that were shown to be effective in predominantly white groups were also effective in diverse cultural groups and should, therefore, oversample specific minority subgroups. Research should be conducted to determine whether existing arthritis interventions were culturally appropriate, and examine ways of modifying such interventions to make them more appealing and equally effective to minority groups.

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