Reaching those most in need: a scoping review of interventions to improve health care quality for disadvantaged populations with osteoarthritis


CRD summary
The review concluded that few studies evaluated the effectiveness of interventions to improve health care quality in disadvantaged populations with osteoarthritis. Further research was required, particularly with regard to interventions aimed at health care providers and the health care system and gap intervention research. Given the limited evidence base the authors' conclusion that further research was needed seems reasonable.

Authors' objectives
To identify and describe the scope and nature of the research evidence on the effectiveness of interventions to improve health care quality or equity in the care of disadvantaged populations with osteoarthritis as an example of a common chronic disease.

Searching
MEDLINE (1950 to February 2010), EMBASE, PsycINFO and the BIREME (1980 to February 2010) databases were searched without language restrictions. The search strategy was available online in an supplementary appendix. Abstracts from Osteoarthritis Research Society International scientific meetings (2004 and 2008) and American College of Rheumatology Annual Scientific Meetings (2006 to 2009) were searched. ProQuest Dissertations and Theses database was searched. A Google search was performed. References of relevant articles identified were checked.

Study selection
Studies of any intervention (treatment, programme or approach) designed to improve health care or reduce disparities in care in disadvantaged adult populations with osteoarthritis who reported health outcomes (such as pain) or intermediate outcomes (such as knowledge) were eligible for inclusion. At least half of each study population needed to have osteoarthritis. Disadvantaged populations included those in inner city or rural areas, specific ethnic groups, women, those with lower social economic status and individuals aged 80 years or more.

All the studies included patient education as the main intervention. All studies except one evaluated arthritis self-management interventions. Two hospital-based studies also targeted the health care system and looked at changes in health care provider roles. One study involved gap intervention research designed to reduce the health care inequity gap. Educational components consisted of one or more of the areas: osteoarthritis as a disease; pain management; exercise; healthy eating; preservation of function; practice of principles of joint protection; depression; fatigue management; sleep; non-pharmacological management of joint pain; medication management; surgical treatment options; communication strategies; working with health professionals; and when to use the health care system. There various delivery methods. Different definitions of disadvantage were used: in most studies the disadvantaged population was defined by race, culture or ethnicity; two studies used rural versus urban populations; one study used social economic status; and one study used gender. Most studies were community based. More than half of the studies described cultural tailoring of an arthritis self-management intervention to meet the needs of the targeted population. Mean age of participants ranged from 51 to 73 years. Women comprised from 64% to 96% of study populations. Where stated, the proportion of participants with osteoarthritis ranged from 50% to 81%. All the included studies were conducted in USA.

Two reviewers independently selected studies for inclusion in the review; any disagreements were resolved by consensus.

Assessment of study quality
The Jadad scale was used to assess the quality of RCTs. Criteria included randomisation and follow-up of withdrawals and dropouts; blinding was not included in this assessment due to the type of intervention under consideration. The eight-item Newcastle-Ottawa scale was used to assess the quality of non-randomised studies. Criteria included patient...
selection, comparability of study groups and outcome assessment. A maximum score of 9 could be awarded on the Newcastle-Ottawa scale (studies with 6 or higher were considered to be good quality).

The authors do not state how many reviewers performed the validity assessment.

Data extraction
The impact of intervention on all outcomes of interest was extracted (reported as positive, negative or equivalent).

One reviewer extracted data and another reviewer checked the completed abstraction form. Disagreements were resolved by consensus.

Methods of synthesis
A narrative synthesis was performed.

Results of the review
Ten studies were included in the review (n=2,368 participants; range 32 to 921): four RCTs and six non-randomised studies (one controlled clinical trial, one controlled before-and-after study and four before-and-after studies).

Jadad scores for the RCTs ranged from 2 to 3. Newcastle-Ottawa scale scores for the non-randomised studies ranged from 4 to 8.

All nine studies that evaluated arthritis self-management interventions reported positive results in favour of arthritis self-management programmes to improve health care quality in disadvantaged populations with osteoarthritis; seven studies compared the disadvantaged population with a pre-test or control group.

One before-and-after study focused the health care inequity gap. This study compared the effectiveness of a video patient decision aid in improving knowledge about treatment options for osteoarthritis and post total knee arthroplasty expectations for pain and physical function in African American men compared with white men. Expectations about total knee arthroplasty remained poor for both groups, but an improvement in knowledge and expectations was found among African Americans and the outcomes remained largely unchanged for white patients.

Authors’ conclusions
Few studies had evaluated the effectiveness of interventions to improve health care quality in disadvantaged populations with osteoarthritis. Further research was required, particularly on interventions aimed at health care providers and the health care system as well as gap intervention research.

CRD commentary
Inclusion criteria for this scoping review were clearly (if somewhat broadly) defined. Several relevant data sources were searched without language restrictions. Some attempts were made to locate unpublished articles and this reduced the likelihood of publication bias. Attempts were made to reduce reviewer error and bias during study selection and data extraction; whether similar steps were used for quality assessment was unclear. Standardised tools were used to assess study quality. Although only summary scores were provided, these indicated that many of the studies may have been suboptimal. This was a scoping review and no meta-analysis was planned; given the disparity of the included studies in terms of study design, intervention and population a narrative format seemed appropriate. Results were only reported in limited terms (such as improvement or lack of improvement), which reduced the readers' ability to fully interpret the outcomes.

Given the limited evidence base the authors’ conclusion that further research was needed seems reasonable.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.
Research: The authors stated that further research was required. This should evaluate interventions aimed at health care providers and the health care system (including population-level interventions that might augment these) and other patient-level interventions. Gap interventions to evaluate whether interventions were effective in reducing documented health care inequalities were needed.

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