Preventing stroke: a narrative review of community interventions for improving hypertension control in black adults

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CRD summary
The authors concluded that hypertension rates in black communities may be reduced by health education combined with strategies to promote self-management of hypertension, and by social support in managing hypertension. In view of methodological problems in the review, in particular the limited search and the failure to systematically assess study quality, the conclusions may not be reliable.

Authors' objectives
To evaluate the effectiveness of community interventions for hypertension in black populations and assess the value of strategies designed to make such interventions culturally sensitive.

Searching
Web of Science, EMBASE and PubMed were searched from 1981 to March 2006. Search terms were reported. The reference lists of articles retrieved were also searched, as were the following journals: the Journal of Hypertension, Hypertension, Stroke and Cerebrovascular Diseases and a Cochrane Collaboration database (not further specified). The search was restricted to published peer-reviewed articles in English.

Study selection
Studies of community interventions were eligible, provided they aimed to improve knowledge of hypertension or, in participants with a blood pressure (BP) of at least 140/90, control of hypertension. All or most of the participants were required to be black adults (of African descent and aged at least 18 years) or ethnicity had to be taken into account in the interpretation of study findings. Community interventions were defined as targeting either a whole geographic region/population or a population subgroup in a specific setting. Studies of diet or physical activity (except those with a BP component) and studies of pharmacological interventions were excluded, as were studies of adherence and descriptive studies of interventions. The primary review outcomes were change in BP levels, control of BP (according to accepted thresholds) and knowledge about hypertension.

Most of the studies in the review included black participants only. In most studies most participants were female. The mean participant age (where stated) ranged from 40 to 69 years. Nearly all studies were conducted in the USA. Interventions included health education classes, education and psychosocial counselling, active self-management, social support in management of hypertension, individual screening and risk management and/or community-wide interventions to address risk. The duration of follow up in the included studies ranged from eight weeks to five years; in most cases it was less than one year. Measures designed to achieve cultural sensitivity included collaboration with black communities, delivery of the intervention by local or minority ethnic staff and involvement of target groups in the design of the intervention.

It appears that a single author selected articles for inclusion, in discussion with other authors.

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

Data extraction
Individual study findings were described, in most cases supported by outcomes data and related p values for changes from baseline or differences between the study groups.

Methods of synthesis
Studies were combined in a narrative synthesis organised by the type of intervention.
Results of the review
Twenty-seven studies were included (n=5,995): 14 randomised controlled trials (RCTs) (n=3,566), including one of crossover design; and 13 non-randomised studies (n=2,429), including two experimental studies and 11 pre-post studies.

Health education (two RCTs, seven non-randomised studies, n=1,822): a crossover RCT of nutrition and exercise education reported significant reductions from baseline in systolic and diastolic BPs (SBP, DBP) in the intervention group (p<0.01 and p<0.05, respectively), with no significant changes among controls. A second RCT, in which the intervention included group dietary and exercise classes, SBP and DBP were lower in the intervention group than in controls at three- and six-month follow up. All but one of the seven non-randomised studies reported that the intervention was associated with statistically significant benefits in knowledge about hypertension and/or reduction in BP. Outcomes were reported either as changes from baseline or in comparison with controls.

Active self-management (six RCTs, four non-randomised studies, n=1,987): all studies reported that the intervention was associated with significant reductions in BP and/or improvements in control of BP. Outcomes were reported either as changes from baseline or in comparison with controls receiving usual care.

Social support in managing hypertension (three RCTs, n=817): two RCTs found significant benefits for the intervention group in control of BP, compared with usual/community care, at five years and three years. The third RCT reported no significant difference between the groups.

Community wide risk factor intervention (two RCTs, n=985): one RCT found significantly higher rates of BP control in the intervention group, compared with controls receiving enhanced primary care, at 12-month follow up. A second RCT found no significant difference between the groups when two levels of intensity of a community home worker intervention were compared; BP declined significantly in both groups.

No statistically significant findings were reported in studies of education and psychosocial counselling (two RCTs, n=327) or of individualised screening and risk factor reduction (one non-randomised study, n=57).

Strategies to achieve cultural sensitivity
Fifteen studies incorporated components of cultural sensitivity but none measured their effect on clinical outcomes.

Authors' conclusions
Hypertension rates in black communities may be reduced by health education combined with strategies to promote self-management of hypertension and by provision of social support in managing hypertension.

CRD commentary
The review objectives and inclusion criteria were clear and some relevant sources were searched for studies. However, no specific attempt was made to locate unpublished studies and the review was limited to articles in English, which created potential language and publication biases. It did not appear that steps were taken to minimise the risk of error and bias in the review by having more than one author independently make decisions about study selection and data extraction. Moreover it did not appear that study quality was assessed, which made it difficult to determine the reliability of the evidence presented. Given the heterogeneity between the studies, it appeared appropriate that the results were combined in a narrative synthesis rather than pooled statistically. The synthesis of findings failed to give precedence to the better quality evidence, although the authors mentioned the limitations of non-randomised designs in the discussion section, along with other methodological problems in the primary studies. There were discrepancies between the text and the tables with regard to study design, so it was unclear which studies were randomised. In view of methodological problems in the review, in particular the limited search and the failure to systematically assess study quality, the authors' conclusions may not be reliable.

Implications of the review for practice and research
Practice: the authors stated that future interventions in this area could include health education, self-management of hypertension (for example, goal setting and BP monitoring) and social support.

Research: the authors stated that a clear definition of cultural sensitivity was needed and that strategies were needed to achieve cultural sensitivity and assess its impact on the outcome of interventions. Assumptions about the meaning of
“community” also needed to be explored.

**Funding**
Not stated.

**Bibliographic details**

**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Adult; African Continental Ancestry Group; Awareness; Community Health Services; Cultural Competency; Cultural Diversity; Ethnic Groups; Female; Great Britain; Health Education; Health Knowledge, Attitudes, Practice; Health Promotion; Humans; Hypertension /prevention & control; Incidence; Male; Program Evaluation; Social Marketing; Social Support; Stroke /prevention & control

**AccessionNumber**
12008103648

**Date bibliographic record published**
01/12/2008

**Date abstract record published**
07/04/2009

**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.