Adapting health promotion interventions to meet the needs of ethnic minority groups: mixed-methods evidence synthesis

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Executive summary

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Executive summary

Background

There is now a considerable body of evidence revealing that a number of ethnic minority groups in the UK experience disproportionate levels of morbidity and mortality compared with the majority white European-origin population. These patterns have also been documented in most economically developed countries and are particularly pronounced for a range of long-term conditions. Across these countries, health-promoting approaches are increasingly viewed as the long-term strategies most likely to prove clinically effective and cost-effective for preventing disease and improving health outcomes in those with established disease. For many of the key chronic diseases, the main preventable risk factors are amenable behaviours such as smoking, physical inactivity and unhealthy eating. Tackling these behaviours therefore represents the focus of the majority of health promotion interventions internationally. In this conceptual and methodological work we focused on the issue of adapting interventions for promoting smoking cessation, physical activity and healthy eating in the three main UK ethnic minority groups, namely people of African, Chinese and South Asian origin. Our approach was built on the assumption that health promotion interventions found to be effective in the general (white European-origin) population are, if appropriately adapted, also likely to prove effective in ethnic minority populations.

Objectives

We sought to identify:

- evidence-based guidance on health promotion interventions for smoking cessation, increasing physical activity and improving healthy eating that are recommended for the general population and which may thus be suitable for adaptation for ethnic minority populations
- smoking cessation, physical activity and healthy eating health promotion interventions that have already been adapted to meet the needs of African-, Chinese- and South Asian-origin ethnic minority populations, the adaptations utilised, and to assess the feasibility, acceptability, equity, clinical effectiveness and cost-effectiveness of these modified interventions
- the adapted interventions that are ready for widespread implementation and those that require further research.

Methods

We undertook a phased programme of work that drew on a range of data sources yielding both quantitative and qualitative data.

Data sources

User engagement

Two national launch and dissemination events for researchers and health-care users, with expert facilitated discussion groups.

UK guidelines and international systematic reviews

Guidelines on health promotion interventions for the general population were identified from the Clinical Evidence, National Institute for Health and Clinical Excellence and Scottish Intercollegiate Guidelines Network databases for the period 1950–2009. In addition, The Campbell Collaboration, The Cochrane Library, the Database of Abstracts of Reviews of Effects and the National Institute for Health Research Health Technology Assessment database were searched for systematic reviews.

Studies of adapted interventions

The following databases were searched from 1950 to 2009: Applied Social Sciences Index and Abstracts, BIOSIS, The Campbell Collaboration, Cumulative Index to Nursing and Allied Health Literature, The Cochrane Library, EMBASE, ISI Web of Science, Latin American and Caribbean Health Sciences Literature, MEDLINE, the NHS Evidence Specialist Collection for Ethnicity and Health and PsycINFO.

Qualitative interviews

Semi-structured, in-depth interviews were conducted with an international sample of researchers and health promoters involved in developing, delivering and evaluating adapted health promotion interventions for ethnic minority populations.

Study selection

UK guidelines and international systematic reviews

Two reviewers independently screened all titles and abstracts. Full papers of potentially eligible guidelines and reviews were retrieved and further assessed if they pertained to children and adults from the general population; focused on providing guidance on health promotion interventions (including individual, community, population and policy-level intervention) including for smoking cessation, increasing physical activity and improving healthy eating; and studied any outcomes relating to smoking cessation, increasing physical activity and improving healthy eating.

Studies of adapted interventions

Two reviewers independently identified conceptual/theoretical reports, systematic reviews and primary studies (experimental, observational and qualitative) of adapted health promotion interventions for smoking cessation, increasing physical activity and improving healthy eating in children and adults of African, Chinese and South Asian origin. Theoretical reports were selected if they explicitly aimed to develop theories, conceptual frameworks and/or models; systematic reviews were selected if at least 50% of the included studies were of adapted interventions; and primary studies were selected if they employed any study design that assessed the impact of adapted interventions on relevant primary, secondary or tertiary outcomes. Primary outcomes were smoking cessation (e.g. quit attempts, quit rates, abstinence, number of cigarettes smoked), increased physical activity (e.g. cardiorespiratory fitness, time spent in physical activity, number of steps taken) and improved healthy eating (e.g. calories consumed, fruit and vegetable intake). Secondary outcomes were body weight, body mass index and waist-to-hip ratio. Tertiary outcomes were changes in knowledge, beliefs and attitudes.

Qualitative interview participants

We used four interview recruitment waves corresponding to four different sampling goals, namely piloting, generating interest, maximising diversity and ensuring representativeness, to recruit participants with relevant experiences.

Data extraction and quality assessment

UK guidelines and international systematic reviews

Guidance statements pertaining to interventions on smoking cessation, increasing physical activity and improving healthy eating recommended for the general population were extracted onto a customised data extraction form. We reported on the quality of the evidence and the quality assessment tool used (when reported). The full text of these reports was then further searched using a set of predefined key terms relating to the ethnic groups of interest. Two reviewers independently extracted statements pertaining to ethnicity.

Studies of adapted interventions

Two reviewers independently extracted data on feasibility, acceptability, equity, clinical effectiveness and cost-effectiveness using a tailored data extraction form. Study quality was assessed using the Critical Appraisal Skills Programme and Effective Public Health Practice Project tools.

Qualitative interviews

Two researchers conducted semi-structured, in-depth interviews either by telephone or face to face. Interviews were recorded, transcribed and independently coded using NVivo 8 (QSR International, Doncaster, Australia). Interview transcripts were checked by the researchers.

Data analysis and synthesis

UK guidelines and international systematic reviews

Guidance statements were organised according to the health promotion topic that they addressed (health behaviour in general, smoking cessation, physical activity, healthy eating) and the 'strategies and activities' used. Statements pertaining to ethnicity were grouped according to shared meaning and/or concept and thematically analysed.

Studies of adapted interventions

Study findings were descriptively summarised and then thematically synthesised. Because of study and data heterogeneity it was not possible to undertake meta-analyses.

Qualitative interviews

Analysis was comparative and iterative. A coding frame, which drew on both the theoretical concepts and emerging insights, was applied to the corpus of data for thematic extraction. We interviewed until we reached saturation, which became apparent as no new codes were generated from the last few interviews.

Realist synthesis

Data from each of the preceding phases of work contributed to a set of context–mechanism–outcome configurations used to inform deliberations on how adaptations may exert their effects.

Results

Feedback from the launch user conferences emphasised the need to broaden the focus of this work beyond the individual-centred behavioural interventions to also encompass examination of community- and ecological-level interventions.

We were able to characterise a range of individual- and more population-level 'strategies and activities' for health promotion. The guidance on effective interventions in the population as a whole identified from 15 UK guidelines and 111 international systematic reviews was, however, dominated by individual-centred behavioural approaches. The strongest and most consistent

evidence-based guidance was for smoking cessation interventions. Much of this evidence tended to be individual-level strategies, such as better resource provision and improved interactions with health-care providers, aiming to increase uptake of and compliance with pharmacological interventions. In contrast, guidance for activities and strategies associated with promotion of physical activity and healthy eating was more likely to draw on population-level strategies, such as environmental changes and settings; these, however, lacked robust evidence of effectiveness, particularly in effecting clinically important changes that could be sustained over time. From this literature, 12 out of 15 guidelines and 41 out of 111 systematic reviews were noted to comment on ethnicity-related considerations. The statements made on ethnicity, however, tended to be rather cursory, providing little or no comprehensive guidance on how best to adapt the health promotion interventions being recommended.

Our systematic review of adapted interventions identified a total of 173 relevant reports comprising 12 relevant theoretical studies, seven systematic reviews and 107 primary studies (reported in 154 papers).

The theoretical studies prioritised women as both targets and agents of behavioural change and suggested a greater need to consider gender influences when planning health promotion for ethnic minority populations. Goals underpinning or motivating behaviour change in ethnic minority populations should consider the role of the individual in the context of families and communities. The development of communication strategies should match the needs and preferences of ethnic minority populations.

Six (of seven) systematic reviews identified focused on African American populations. Findings from these systematic reviews were inconclusive. Two reviews suggested that adaptation of interventions increased the effectiveness of health promotion interventions, but were unable to identify which specific adaptations were associated with these improved outcomes. Another review suggested that adaptation increased short-term effectiveness but that these benefits were not sustained. The remaining four reviews did not report on whether or not adapted interventions increased effectiveness, attributing this to the lack of available primary research and the preliminary nature of some of the included studies. Furthermore, there was no clear evidence on which adaptations are most important to undertake for promoting the health of ethnic minority populations.

Overall, the corpus of 107 adapted studies showed positive outcomes, but for most of these studies it was not possible to link effectiveness to adaptations. Only 9/107 primary adapted intervention studies identified were designed to detect the effectiveness of adaptation, this being studied through direct comparisons of adapted with standard interventions; the results were similarly inconclusive. No studies reported on cost-effectiveness considerations.

From the 107 primary adapted interventions we identified a broad spectrum of approaches used for adaptation, which was catalogued to develop a novel 46-item Typology of Adaptations. These adaptations were then mapped on to different stages of the research cycle to produce an eight-stage Programme Theory of Adapted Health Promotion Interventions.

Thematic analysis of the 26 qualitative interviews generated three overarching themes relating to the need to broaden thinking on ethnicity when adapting health promotion interventions from the more fixed dimensions (e.g. country of birth, language, religion, ethnic group) to encompass more contextual dimensions (e.g. participants' health-care/research exposure, their social environment and heterogeneity within the participant groups); confirmation of the adaptations identified in our Typology of Adaptations; and considerations of the practicalities of adapting health promotion interventions. This last theme, for example, highlighted how UK researchers

and health promoters would benefit from a greater opportunity to share experiences, this reflecting their sense of isolation as they grappled with the necessary underpinning evidence base in a complex area of activity.

Synthesising this body of diverse evidence highlighted that no adapted intervention was judged to be suitable for widespread implementation. Although all adapted intervention approaches needed further evidence of effect, the use of adaptations was documented to have increased process outcomes such as acceptability, uptake, satisfaction and retention. Adapted approaches to enhance awareness, knowledge and use of and trust in smoking cessation therapies are most likely to generate clinically important returns in the short to medium term. Furthermore, these approaches are likely to prove cost-effective and should, therefore, be prioritised. Adapted approaches for promoting clinically relevant changes in diet and exercise are, however, likely to prove much more challenging, reflecting the need for intensive behavioural approaches and/or more environmental interventions. Candidate environmental approaches include the creation of accessible and safe opportunities for exercise and active lifestyles for individuals, families and communities within the built inner-city environments in which the majority of ethnic minorities live (e.g. walking routes and opportunities for social group-based exercise). Interventions should also test changing the availability of foods served at community organisations and religious institutions, as well as ensuring that any dietary modification or recommendation should prioritise substitution rather than avoidance of commonly consumed and perhaps culturally relevant foods. We developed the RESET (i.e. relevancy, evidence base, stages of intervention, ethnicity and trends) decision-making tool to support future studies in this area.

Conclusions

There is as yet insufficient evidence from available guidelines, systematic reviews and empirical studies to make conclusions about the clinical effectiveness or cost-effectiveness of unadapted compared with adapted health promotion interventions for smoking cessation, increasing physical activity and improving healthy eating. However, the overall body of adapted interventions suggests that careful consideration of target group needs and contextual factors can enhance planning, engagement, implementation and retention. Despite increasing ethnic diversity in the UK and Europe, it is salutary to note that most of the empirical work reported to date has been based in the USA, overwhelmingly undertaken among African American populations. This research is inherently difficult to generalise to a UK context as, for example, the majority of African Americans share the same language and religion and many aspects of diet as the majority population, which is less likely to be the case among UK ethnic minority groups. Generating transferable lessons is further complicated by the poor theorising and reporting of adaptation approaches in many of these studies. The 46-item Typology of Adaptations, the eight-stage Programme Theory of Adapted Health Promotion Interventions and the RESET tool we have developed will, we hope, facilitate the improved design and reporting of future studies, which need to focus on high-quality head-to-head trials comparing the effectiveness of adapted and standard approaches to promoting health.

Implications for future research

- Guideline developers and systematic reviewers of health promotion interventions should be encouraged to make clearer the extent to which the evidence relates to ethnic minority populations.
- There is a lack of evidence-based models and tools to guide researchers and practitioners on how to best adapt health promotion interventions, which contributes to the poor design and

reporting of much of this body of work. The models and tools we have developed during this study should now be tested and, if necessary, refined before more widespread use.

- A key research recommendation is the need for more high-quality research comparing carefully adapted interventions with more standard approaches to facilitate assessment of effectiveness of the adaptation(s). There is a need for the cost-effectiveness of these adapted interventions to be established.
- The development and testing of approaches enhancing the use of smoking cessation therapies is supported by strong evidence and guidance, and therefore needs to be prioritised; such approaches, if found to be effective, are also very likely to prove cost-effective.
- Our qualitative work revealed that there are many researchers and practitioners breaking new ground and that they would, in view of the uncertainties in the evidence base and challenges inherent in undertaking this work, value peer support of the kind that is now more routinely available in the USA. A UK-based academic network could readily meet this need for UK workers and, indeed, possibly the needs of many European academics and health promoters working in ethnic minority health.
- Finally, given that the prevalence of long-term conditions is projected to soar and populations are likely to become increasingly ethnically diverse, it is important that this evidence synthesis is periodically updated in order to inform deliberations and planning on how best to deliver equitable health services and outcomes for all.

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Publication

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NIHR Health Technology Assessment programme

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The research reported in this issue of the journal was commissioned by the National Coordinating Centre for Research Methodology (NCCRM), and was formally transferred to the HTA programme in April 2007 under the newly established NIHR Methodology Panel. The HTA programme project number is 07/63/03. The contractual start date was in January 2009. The draft report began editorial review in June 2009 and was accepted for publication in November 2011. The commissioning brief was devised by the NCCRM who specified the research question and study design. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the referees for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

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