APPENDICES

Appendix 1

Search terms for review


Countries: Europe (any); USA & Canada; Australia & New Zealand; South Africa


Evaluations of Health Promotion Interventions relating to diseases or conditions OR key modifiable risk factors

Search strategy for Medline and EMBASE:
CHD and Ethnic groups;
CVD and Ethnic groups;
Indian or Pakistani or Chinese or Asian’ & ‘public health’, ‘health promotion’, ‘prevention and control’, ‘health education’, ‘primary prevention’ & CHD or CVD
Diet & ‘Indian or Pakistani or Chinese or Asian’ /Ethnic groups
Smoking & ‘Indian or Pakistani or Chinese or Asian’ / Ethnic groups
Physical activity/exercise & Indian or Pakistani or Chinese or Asian / Ethnic groups
Alcohol & ‘Indian or Pakistani or Chinese or Asian’ / Ethnic groups

Search strategy for CINAHL
Indian or Pakistani or Chinese or Asian & heart /CVD
Indian or Pakistani or Chinese or Asian & smoking /diet/ alcohol / physical activity / exercise
Search strategy for PSCYINFO
Indian or Pakistani or Chinese or Asian & Diet (no limits)
Indian or Pakistani or Chinese or Asian & Smoking (English/human)
Indian or Pakistani or Chinese or Asian & Exercise/Physical activity (English, human, Europe/N Am/NZ/Aus/S. Af)
Indian or Pakistani or Chinese or Asian & Alcohol (English, human, Europe/N Am/NZ/Aus/S. Af.)
Indian or Pakistani or Chinese or Asian & Cancer / Heart / Accidents / cardiovascular (English, human and country limits)

Search strategy for WEB OF KNOWLEDGE
CHD & Health promotion & ethnic groups
CVD & Health promotion & ethnic groups
Ethnic groups & Smoking
Ethnic groups & Diet
Ethnic groups & Physical Activity
Ethnic groups & Alcohol

Search strategy for Key Websites
Specialist library on ethnicity and health: Total documents available within areas classified as ‘Guidance and Pathways’, ‘Evidence’; ‘Reference’, ‘Education’
Cochrane library: Separate searches within ‘Cochrane reviews’ & ‘other reviews’ under ‘ethnic’, ’public health’, ‘health promotion’
Campbell Collaboration: ‘health’ ‘disease/condition categories’ ‘ethnicity & related categories’
NICE: Guidelines database
Health Development Agency: ‘Minority ethnic database’
Centre for Reviews and Dissemination (University of York) All databases: ‘minority ethnic’
Appendix 2: data extraction form
Reviewer's name ———— ———— ———— Today's date ———— ————

A. Bibliographic identification
Item code __________
1. Title
2. Author(s)
3. Date
4. Type of publication:
   Journal article ___  Book section ___  Report ___  Other ___

B. Study characteristics
5. Research question
6. Research aim(s) and objectives
7. Research hypothesis

C. Intervention
8. Focus of intervention (include: disease/risk factor/ethnic group)
9. Duration of study or studies (include start and end dates)
10. Description of intervention (see 'Reviewer's notes')
11. Setting/location (see code list in 'Reviewer's notes')
12. Method(s)
   (a) General:

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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Can’t tell</th>
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<tbody>
<tr>
<td>educational</td>
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<tr>
<td>Resource</td>
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<td>Policy</td>
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</table>

   (b) Specific (see code list in 'Reviewer's notes')

13. Actors/facilitators
   (a) Personnel (see code list in 'Reviewer's notes')

   (b) Was appropriate training provided for actors? Yes / No (Bold one)

   If yes, specify: ____________________________

   (c) No. of practitioners involved in intervention ______

14. Theoretical basis for intervention (s) (see code list in 'Reviewer's notes')

D. Study design
15. Type of design (see 'Reviewer's notes') (Bold one): experimental/observational
   If experimental:
   Randomised controlled trial/before-after/quasi-experimental/other (Bold one)
   If other, specify: ___________________

16. Allocation/randomisation:
   (a) Method used
   (b) Unit of allocation: individual/group (specify) _______
   (c) Randomised? Yes / No (Bold one)
   (d) Was there blinding

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Can’t tell</th>
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<tbody>
<tr>
<td>Of subjects?</td>
<td></td>
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<tr>
<td>Of practitioners?</td>
<td></td>
<td></td>
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<tr>
<td>Of evaluators?</td>
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   (e) Were measures taken

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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t know</th>
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<tbody>
<tr>
<td>Before intervention?</td>
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<td></td>
<td></td>
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<tr>
<td>After intervention?</td>
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</table>
(f) Author's description of method used:

17. (a) Number of groups:
    intervention ______ control_______

    (b) Size of groups sampled
        Intervention ______, ______, _____
        Control ______, ______, _____

E. Study population

18. Criteria for
    (a) inclusion

    (b) exclusion

19. Characteristics of population
    (a) i. ethnic group(s) as described in article (see code list in 'Reviewer's notes')

    ii. ethnic group(s) by our classification (see 'Reviewer's notes')

    (b) generation: (Bold one)
        immigrants/first-generation/greater than first-generation/mixed/not mentioned

    (c) age range ______ sex: M / F / Both (Bold one)
(d) geographical area (country and region)

(e) socioeconomic group(s) how measured? ________________________________

(f) other information

20. How was study population sampled?

21. Recruitment procedures

22. Is study population representative of target population? Yes / No  (Bold one)

   If ‘no’, why not? __________________

23. Arc intervention and control groups comparable? Yes / No  (Bold one)

   If no, why not? __________________

**F. Methods of evaluation**

   (include key variables relating to nutrition and health only)

24. Baseline measures

25. Outcome measure(s) (see 'Reviewer's notes')

26. Measurement method(s)

27. Time interval(s) between measurements

28. Was validity considered? (see 'Reviewer's notes')  Yes / No  (Bold one)
Specifically, was/were . . .

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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
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<tbody>
<tr>
<td>Internal validity tested?</td>
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<tr>
<td>External validity tested?</td>
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<tr>
<td>Publicised data referenced?</td>
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</tbody>
</table>

If 'yes', specify how validated ________________

**G. Analysis**

29. Statistical techniques used

30. Adjustment for confounding? Yes / No / Not discussed  (Bold one)

If 'yes', for which variables? ________________

If 'yes', adjustment made in: Sampling / Analysis / Both  (Bold one)

If 'analysis' or 'both': Stratified / Adjusted

31. Units of analysis: Groups / Individuals / Other  (Bold one, and if ‘other’, specify ______

32. Approach to analysis (see 'Reviewer's notes'):

   Explanatory / Pragmatic / Not mentioned / Other (Bold one, and if ‘other’, specify ______

**H. Results**
33. Estimates of effect size
   (a) Table of results and effect size (see 'Reviewer's notes')
   (b) Author(s) estimate of effect size:
   (c) Does reviewer agree? Yes / No  (Bold one)
      If 'no', why not? ________________________________

34. Side effects

35. Other relevant results (see 'Reviewer's notes')

36. Cost-effectiveness information, if any:

37. Response rate (or other information concerning attrition)
   (a) Cases ______________
   (b) Controls ______________
   (c) Overall_______________

38. Stage of research: Theoretical / Experimental / Demonstration / Dissemination / Other  (Bold one, and if ‘other’, specify ______________)

I. Judgements

39. Was intervention effective?
   (a) Author(s)' conclusion: Yes / No  (Bold one)
   (b) Reviewer's conclusion: Yes / No  (Bold one)
40. Quality of paper (appropriateness of information provided) (see 'Reviewer's notes')

41. Quality of study (see 'Reviewer's notes'):
   (a) Replicability (design, intervention, evaluation)
   (b) Generalisability of results
   (c) Other comments
   (d) Reviewer's decision
      i. Include / Exclude from review  **(Bold one)**
      ii. Reasons
<table>
<thead>
<tr>
<th>Study, year, country, setting</th>
<th>Sample</th>
<th>Study Design and follow-up</th>
<th>Intervention type, duration, length, frequency and theory</th>
<th>Adaptations to target group</th>
</tr>
</thead>
</table>
| 1.Carroll et al, 2002         | Sample size: 36  
Ethnicity: South Asian  
Gender: Women  
Religion: Muslim  
Age Range: NA  
Other details: At risk of osteoporosis and CHD. | Design: Qualitative research; one group Pre and Post Intervention Test after 6 weeks | Intervention Type: Moderate Exercise  
Duration: 5 week period  
Length: 1 hour, twice weekly  
Theory: Self efficacy, Transtheoretical model of behaviour change | a) Facilitators: Bilingual female health and fitness assessor, instructor and researcher  
b)Organisation of activities: Women only sessions in church with crèche facilities  
c)Recruitment: Broadcasts on Urdu channel, distribution of Urdu posters to public places; involvement of local community groups |
| Country: UK  
Location: Beeston area of Leeds  
Setting: Church Hall | | | |
| 2. Chiang, 2005               | Sample size: 128  
Int: 58, Con: 70  
Ethnicity: Chinese-American  
Gender: Both  
Age range: 65-89  
Other information: most had low incomes | Design: Quasi-experimental design; pre-test and post test after eight weeks  
Int: Culturally modified walking group  
Con: non-culturally modified walking group | Intervention type:  
Int group: Culturally modified walking group  
Con group: Non-culturally modified walking group  
Duration: Eight weeks  
Length: 30min/day.  
Frequency: Three times a week.  
Theory: Self-efficacy theory, Stages of Change Model and Culture Care Theory | a)Facilitator(s): Researcher, bilingual nurse, multi-lingual investigator and translator  
b) Translation of walking protocol and questionnaires  
c) Recruitment: Use of community organisations  
d) Use of culturally modified walking programme |
3. Davey, 1998; Davey et al, 2000
Location: London borough of Ealing
Setting = Home
40 South Asians and 47 Europeans
Male = 55, Female = 32
Age = 35 to 50 yrs
Other details: High scores on index linked to insulin resistance
RCT; 3 groups stratified by sex and ethnicity: no change in PA/wait list (NE), PA with follow-up tests 24 hours after last session (E1) and PA with follow-up 5 days after last session (E5)
Intervention type = Individually prescribed walking - jogging programme over 12 weeks
Frequency: Three sessions per week plus circuits once weekly
Length: 30 minutes each
a) Organisation of activities: advice given on what forms of Indian dress to wear for exercise
b) Separate sessions for women were organised (which were not taken up)
c) Training partnerships between women encouraged for safety and support

4. Jenum et al., 2006
Country: Norway
Setting: Community based, Oslo
Sample size: 2,950
Int = 1,497 (intervention district)
Con = 1,453 (control district)
Ethnicity: Urdu, Turkish, Tamil and Vietnamese speaking communities
Gender: Both
Age range: 30-67
Other information: lived in most deprived area
Design: Pseudo experimental cohort design; follow-up after 3 years.
Intervention type: Theory-based activities to promote walking and other PA
Duration: 3 years
Length: Not stated.
Frequency: Not stated.
Theory: Social-psychological and ecological models and perspectives on empowerment and participatory approaches.
a) Facilitators: Local political leaders, welfare workers and research team participated in planning and delivery of intervention.
b) Community-based resource group was established.
c) Access to areas for PA increased through labelling walking trails, and lighting.
d) Questionnaires were translated into the main languages of immigrant groups.

5. Lew et al, 1999
Country: USA
City:
Setting: community setting
1st walkathon attendance: 300 people
2nd walkathon: 400
Ethnicity: Predominantly Chinese American
Gender: Both, Age = all
Design: Observational study
3 walks were arranged annually.
Intervention Type: Annual Walkathon
Duration: Three years.
Theory: Social marketing
a) Recruitment: Flyers translated into Cantonese and distributed in Chinatown street festival.
b) Area close to ethnic concentration was chosen for walk.
c) Community coalition formed
d) Ethnic-specific entertainment organised.
<table>
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<tr>
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<tbody>
<tr>
<td>City: San Francisco</td>
<td>Setting: Community Centre</td>
<td>Ethnicity: Chinese American</td>
</tr>
<tr>
<td>Age: 45+yrs</td>
<td>Other Information: at least 1 major CVD risk factor, low fitness scores and low income</td>
<td></td>
</tr>
<tr>
<td>Design: Repeated-measure intervention study</td>
<td>Follow Up: 6 weeks, 12 weeks</td>
<td></td>
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<tr>
<td>Intervention type: Tai chi exercise class</td>
<td>Duration: three times per week for 12 weeks</td>
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<tr>
<td>Length: 60 minutes</td>
<td>Participants were also encouraged to practice the same at home.</td>
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<tr>
<td>Theory: Self Efficacy theory</td>
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</tbody>
</table>

Abbreviations: N/A = Not Applicable, EOP = Exercise on Prescription, Int = Intervention, Con = Control, RCT = Randomised Control Trial)
### Table A2

Summary of smoking cessation studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Study Design</th>
<th>Intervention Type, Length and Theory</th>
<th>Cultural and other adaptations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ma et al, 2004a, USA Community setting Pennsylvania and New Jersey</td>
<td>Size = 31 (Int group = 14, Con = 17) Ethnicity = Chinese Gender = males Age = 14 to 19. Other details = viewed as ‘High risk’</td>
<td>Pre-post quasi experimental design; comparison of culturally modified (CM) and standard smoking cessation curriculum (SC)</td>
<td>Smoking cessation curricula Length: SC programme = 50-minute session, CM unspecified Frequency: SC programme weekly, CM unspecified Duration: SC programme 6 weeks. CM lasted for 3 months. Theory: Not stated</td>
<td>a) Recruitment was through community-based organisations with incentives for joining, bringing new recruits and attending all sessions. b) Curriculum: Tailored to bicultural (Eastern and Western) attitudes in participants and developed through literature review and input from Asian participants eg collective orientation, used to encourage quitting, develop self-efficacy, deal with stress and overcome cultural difficulties</td>
</tr>
<tr>
<td>2. Ma et al, 2004c USA</td>
<td>Size: 34 Ethnicity: Chinese (19) and Korean (15) Gender: males and females Age: Above 18 Other details = Smokers, with phones</td>
<td>One-group, pre-post test design Measurements taken at 1-week, 1-Month and 3-months after intervention</td>
<td>Counselling, and NRT, two hours long. Theory: Cognitive-Social Health Information Processing model</td>
<td>a) Recruitment of participants through Asian community networks. b) Bilingual counsellors’ trained to adapt to the educational levels of participants. c) Native languages used. d) Counselling session tailored to the target group’s health-related beliefs and values, including culturally relevant barriers and</td>
</tr>
</tbody>
</table>
3. Ma et al, 2004b  
USA Pennsylvania and New Jersey  
Size = 161  
Ethnicity = Asian American (42% Chinese)  
Gender = males and females  
Age = 10 - 22  
One group, pre-post test-design  
Measurements taken immediately after intervention  
Smoking cessation curricula; unspecified length and duration  
Theory: Theory of Reasoned Action.  

- a) Recruitment: from schools and Asian community based after school program.  
- b) Facilitators: Asian peer health educators, Asian professional staff and community organisations  
- c) Curriculum: why Asian youths smoke and the tobacco industry’s marketing of tobacco products to Asian youth

USA Community setting in South Eastern Pennsylvania  
Size = 66 (Int = 33, Con = 33)  
Ethnicity = Chinese and Korean  
Gender = male and female  
Age = above 18  
Other details = with phones  
RCT,  
Measurements taken 1-week, 1-month and 3-months after the intervention  
Single one to one session lasting 90-120min with NRT compared to general health education session  
Theory: Not stated  

- a) Recruitment through Asian community networks.  
- b) Curriculum: counselling sessions involved discussion of cultural barriers to quitting, such as cultural norms and race-related issues, such as stress associated with immigration  
- c) Strategies: culturally appropriate quitting strategies including familial support.

Size = 203 at start of Ramadan and 132 at end; survey of 1051 mosque goers; follow-up survey of 28 individuals  
Religion = Muslims  
Gender = Male  
Evaluation of community project  
Pre and post intervention and follow-up after 3 months  
Media campaign during Muslim fasting month of Ramadan, including radio advice, talks on smoking cessation and sources of help with quitting, distribution of calendars  
Theory: Not stated  

- a) Facilitators: outreach workers, religious leaders/imams  
- b) Organisation of activities: Month of Ramadan used to encourage Muslims to quit smoking; located in mosques.  
- c) Calendars with fasting times and smoking cessation messages were widely distributed

(Abbreviations: N/A = Not Applicable, Int = Intervention, Con = Control, CM = Culturally modified smoking cessation curriculum, RCT = Randomised Control Trial, NRT = Nicotine Replacement Therapy, SC = Standard smoking cessation curriculum)
### Table A3
Summary of diet studies

<table>
<thead>
<tr>
<th>Study, year, country, setting</th>
<th>Sample size, ethnicity, gender, age</th>
<th>Design, exposure, and follow-up</th>
<th>Intervention type, duration, length and frequency and Theory</th>
<th>Adaptations to target group (including ethnicity, gender, age and other characteristics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Snowdon, 1999 Country: UK Setting: Bedfordshire community centre,</td>
<td>Sample size: 20 Ethnicity: Urdu, Gujarati, Punjabi and Bengali speaking communities Gender: Female Age range: Not stated.</td>
<td>Qualitative design; evaluation form and informal discussion at end of intervention and interviews 12 to 18 months later</td>
<td>Type of intervention: Cookery clubs Duration: Ongoing at the time Length: Cookery clubs run over three sessions; each session lasts for two hours Frequency: Not stated Theory: Not stated.</td>
<td>Facilitator(s): Trained community members acted as facilitators. Leaders of cookery clubs spoke same first language as participants Curriculum: Healthier versions of traditional Asian dishes were used in cookery clubs. Active local community members acted as club leaders and recruited participants from the same community.</td>
</tr>
<tr>
<td>2. Williams and Sultan, 1999, Country: UK Setting: Trafford community centre</td>
<td>Sample size: 13 Ethnicity: Asian Gender: Female Age range: 26-55</td>
<td>Qualitative design, pre- and post-test, and follow-up after 17 months.</td>
<td>Type of intervention: Healthy eating and exercise group Duration: Not stated. Length: Sessions lasted for 2 hours Frequency: Weekly. Theory: Not stated.</td>
<td>Facilitator(s): Community dietician, fitness instructor and Link worker Recruitment: Group was formed from an existing local group attended by Asian women and supported by multilingual link worker</td>
</tr>
</tbody>
</table>
3. Sun et al., 1999,  
Country: USA  
Setting: student health centre, New York

| Sample size: 228 | RCT design; post survey after 7 months. | Type of intervention: Nutrition education program  
Duration: 6 months (13 sections with 2 weeks for each section).  
Length: Not stated.  
Frequency: Not stated.  
Theory: PRECEDE | Facilitator(s): Lectures by Chinese dieticians, health educators in the study colleges and researchers  
Curriculum: Inclusion of traditional foods in activities centred on planning, choosing and buying food  
Involvement of neighbourhood leaders and family members.  
Other adaptations: highly interactive and varied programme designed to engage with young people. |
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<tr>
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<tbody>
<tr>
<td>Int = 112; Con = 106</td>
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</tbody>
</table>
| Ethnicity: Chinese-American  
Gender: Both  
Age range: 18-30+ |  |  |  |
Table A4
Summary of CHD prevention studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample characteristics</th>
<th>Study design</th>
<th>Intervention</th>
<th>Adaptations for target community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a) Mathews et al., 2007</td>
<td>a) Sample size: 304 at initial screening, 140 at follow-up. Ethnicity: Bangladeshi, Indian, Pakistani and other South Asian. Gender: Both. Age: 13 – 81. Other information: Not stated</td>
<td>a) Longitudinal study, no randomisation; follow-ups averaging between 6-12 months</td>
<td>Intervention type: Screening, advice, exercise and diet sessions. Duration: 2.5 years. Length: 30-minute initial screening appointment, followed by 30-minute consultation 1-2 weeks later to discuss results and set goals. Other sessions not specified. Frequency and theory: Not stated.</td>
<td>a) Facilitator(s): Community nurse, doctor and project team. b) Project tailored to needs identified by local people. c) Flexible delivery of activities. d) Research questionnaires included culturally familiar items. e) Language support available in intervention and study. f) Taxis arranged to facilitate access to group discussions. g) Separate sessions held for men and women.</td>
</tr>
<tr>
<td>1b) Netto et al., 2007</td>
<td>2b) Sample size: 55 in first focus group and 36 in the second round. No control group. Ethnicity: Bangladeshi, Indian, Pakistani. Gender: Both. Age range: Not stated. Other information: Not stated</td>
<td>b) Qualitative research; focus groups were organised at the beginning of the intervention and six months later.</td>
<td>Allow time for group discussions.</td>
<td></td>
</tr>
</tbody>
</table>
Country: UK
Setting: Community locations, London
Sample size: 249
Ethnicity: Indian, Pakistani, Bangladeshi (63%), Black African (16%)
Gender: Both
Age range: 16-65+
Other information: 28% of mosque goers had no educational background, 45% were not working
Study design: Cross-sectional; pre- and post quantitative survey of mosque goers 5 months after campaign; qualitative survey of Imams 3 months after campaign; review of campaign.
Type of intervention: Media campaign
Duration: 8 weeks;
Length: 1 day training of Imams and volunteers; 5 week media campaign
Frequency: 8 advertisements and 4 programmes daily
Theory: Not stated

a) Facilitator(s): Researchers, community leaders and sessional workers.
b) Use of ethnic foods as basis to promote healthier cooking.
c) Use of ethnic media to deliver media campaign.
d) Mosques used to disseminate health messages during Muslim fasting period (Ramadan).

3. Khunti et al., 2007
Country: UK
Setting: Secondary schools in Leicester
Sample size: 5 schools with 4,763 pupils; 309 staff
No control group
Ethnicity: 77% % South Asians, mainly Indians
Gender: both
Age range: 11-15
Other information: Schools were in deprived areas.
Quasi-experimental design, pre- and post measurements, qualitative action research
Type of intervention: varied approaches in individual schools, including diet and PA interventions
Duration: Two years
Length, frequency and theory: Not stated

a) Facilitator(s): Research team in partnership with school staff members
b) Food intake questionnaire had previously been modified for use in the local ethnically diverse population.
Table A5
Summary of measures, impact of the intervention and conclusions for PA interventions

<table>
<thead>
<tr>
<th>Study and measures</th>
<th>Impact of Intervention</th>
<th>Conclusions and recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Carroll et al, 2002 Qualitative interviews at baseline and follow-up</td>
<td>Positive feedback received, with some women reporting weight loss, feeling more relaxed and sleeping well. Others reported making positive behavioural changes and a positive outlook to PA. High satisfaction levels with programme. Barriers included lack of crèche facilities and transport.</td>
<td>Conclusions: Significant barriers prevent South Asian women from participating in PA, (eg culture of exercise, language, religion) and need to be taken account of in EOP schemes. Recommendations: (a) Organise transport facilities (b) Plan consultation sessions between instructor and participants (c) Arrange sessions at different times in local venues (d) Plan a suitable range of activities</td>
</tr>
<tr>
<td>2. Chiang, 2005 Baseline measures: Blood pressure, stage of change and readiness for physical activity, perceived barriers to PA, exercise self-efficacy and duration of walking Outcome measures: See above</td>
<td>(a) Knowledge: N/A (b) Attitudes: An increase of 7% of participants in the maintenance stage of change. Significant changes in some perceived barriers for non-modified group only, eg perceived barriers of social influence (mean change score = .15 int and -.22 con group, p&lt;.01), (c) Behaviour: No difference in duration of walking between walking groups Participants with lower education walked more minutes per week than those with higher education (M = 271.27 and 224.16, respectively, p&lt;.05).</td>
<td>Conclusions: The walking programme decreased some of the perceived barriers, increased self-efficacy, and decreased diastolic and systolic blood pressure although the results for the non-modified walking group were either not significantly different from or better than those in the culturally modified walking group, ie the programme was successful without additional cultural modifications. Recommendations: a) Examine other components of Chinese culture in developing walking protocols or b) apply the walking protocol to Chinese-Americans with other chronic diseases.</td>
</tr>
</tbody>
</table>
Taoists or Buddhist walked more than Christians (M = 291.07 and 216.33, respectively, p<.05).
(d) Health status: Significant decrease in systolic blood pressure in non-modified, but not in culturally modified group (mean change of -9.87 mm Hg, p<.001).

3. Davey, 1998; Davey et al., 2000
Measures: Insulin sensitivity, maximal oxygen uptake, glucose tolerance, blood pressures, BMI, tobacco and alcohol consumption, diet, family history and daily activity.
(a) Knowledge, attitudes and behaviour: N/A
(d) Health status: Data from E1 and E5 showed significant increase in cardio respiratory fitness compared to NE (+4.15 vs. -0.003 mL/kg/min, p<.001), representing a mean change of 12.1% on baseline levels. No significant between-group differences in fitness change comparing E1 and E5.
Insulin sensitivity was significantly improved only in E1 compared to NE or E5 (+.67 vs. +.30 min/pmol/L, p=.05), representing a 40% mean increase on initial values.
Conclusions: PA had a positive impact on participants’ cardio respiratory fitness and insulin sensitivity; though for insulin sensitivity, an improvement was only demonstrable within 24 hours, but not within five days of the final exercise session.
Recommendations:
(a) Continue exercise training to maintain benefits in insulin sensitivity

Baseline: Self reported behaviour, other physical risk factors (cholesterol, triglycerides, glucose, resting blood pressure, heart rate, body mass, height, obesity); prevalence of self-reported and other diabetes and stages of change construct
Outcome: As above
(a) Knowledge and attitude: N/A
(b) Behaviour: The increase in PA was highly significant for both sexes (p<.004).
The net proportion quitting smoking was 2.9% (95% CI 0.1-5.7, p<.043).
(c) Health status: The proportion who increased their body mass was 14.2% (p<.001) lower in the intervention district and across subgroups (27.5%, p<.001).
Beneficial effects for both sexes in systolic blood pressure (3.6 mmHg [2.2-4.8], p<.001) and serum triglyceride levels (0.16 mmol/l 95% CI 0.06-0.25, p<.01 for men and p<.046 for women).
Increasing levels of participation in walkathon each
Conclusions: The intervention produced an increase in PA levels, reduced weight gain and resulted in beneficial changes in other risk factors for Type 2 diabetes and CVD
Recommendations:
(a) Plan theory-driven interventions to understand the processes underlying behavioural changes, especially intrapersonal, social and physical environmental factors.
(b) Interventions should address the mediators of behaviour change, rather than attempting to address behaviour change directly
Conclusion: The annual walkathons introduced PA
Levels of participation in the walkathons
Survey conducted in 2nd walkathon

year. 95% of participants felt it had encouraged them to exercise. Staff and coalition members reported that events had increased community members enthusiasm for PA.

to a diverse community of Asian-Americans. Recommendations:
(a) Involve community in planning events
(b) Employ bilingual/bicultural staff
(c) Use culturally tailored publicity
(d) Design specific programmes for each community

6. Taylor-Piliae, 2006

Measures: Functional reach (FR); single-leg stance (SLS); arms curl and chair stand; back scratch and chair sit

Adherence: 100% follow-up at 6 weeks and 97% on completion
Health status: Pair-wise contrasts of mean differences between baseline and 12 weeks for FR, SLS, upper and lower body strength and flexibility all statistically significant at 95% confidence intervals eg for FR, F(df1.360) = 4.71, (LBCI = 0.16, UBCI = 1.87)

Conclusions: Tai Chi is effective for improving balance, muscular strength and flexibility among older Chinese. Recommendations:
(a) Use culturally appropriate exercise
(b) Employ translators
(c) Use a local centre to increase accessibility
### Table A6
Summary of measures used, impact of intervention and conclusions for smoking cessation interventions

<table>
<thead>
<tr>
<th>Study and measures</th>
<th>Impact of the intervention</th>
<th>Conclusions and recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ma et al, 2004a</td>
<td>Knowledge: Positive changes in beliefs in both groups</td>
<td>Conclusions: Culturally modified programmes are beneficial to Asian American youth. Longer exposure may be necessary for high risk group.</td>
</tr>
<tr>
<td>Baseline and outcome measures</td>
<td>Behaviour: 22% quit in the con group, 0 in the int group</td>
<td>Recommendations: Future research needs to be undertaken with a larger, more representative Asian-American group.</td>
</tr>
<tr>
<td>Knowledge, attitudes and behaviour concerning tobacco use and relevant cultural factors.</td>
<td>Int group showed a greater reduction in tobacco use than control group, eg, typical weekday (M = 6.7, SD = 5.9) At 3 month follow-up 23% reported having quit smoking in the control group and 18% in the intervention group. Health status: N/A</td>
<td></td>
</tr>
<tr>
<td>2. Ma et al, 2004b</td>
<td>Knowledge: Significant increase in mean scores for tobacco use (4.1, p = .001).</td>
<td>Conclusions: The curriculum can increase Asian American youth’s tobacco knowledge.</td>
</tr>
<tr>
<td>Baseline and outcome measures: Self administered written pretest included questions on demographic data, knowledge, attitudes, behavior intention related to smoking and satisfaction of the program</td>
<td>Attitude: Small but significant difference overall (0.5, p = 0.007)</td>
<td>Recommendations: (a)Use a quasi-experimental design with control and intervention groups, with measurements at 3 and 6 months post intervention</td>
</tr>
<tr>
<td>Behaviour: 90% of participants indicated intention to share information gained through the program with others.</td>
<td>Behaviour intention was more closely associated with attitude (r = 0.31) rather than with knowledge change (r = 0.04)</td>
<td>(b) Use larger sample size and compare smokers and non-smokers.</td>
</tr>
</tbody>
</table>
3. Ma et al, 2004c
Baseline: Monitor-Blunter style Scale;
Baseline and outcome: Risk perception; Self-Efficacy;
Profile of Mood status (POMS);
Nicotine Dependence;
Stage of change and Quit History
Knowledge: N/A
Attitude: From 0 at baseline, 58% had progressed to action stage at 1-week. 68% at 1 month and 62% at follow-up.
Behaviour: Quit rate was 59% at 3-months post-intervention follow-up.
Significant reduction in regular smokers from baseline (79.4%) to 1 month (6.5%) to 3-months (7.4%).
Health status: N/A

Conclusion: The intervention can effectively move smokers between stages of change
Recommendations:
a) Use trained bilingual counsellors
b) Communicate with participants on an individual basis
c) Use randomized trial design and studies which focus on relapse at 3 months.

4. Fang et al, 2006
Baseline and outcome measures:
Fagestrom test of Nicotine Dependence;
Perceived risks of smoking;
Self-efficacy in quitting;
Pros and cons of quitting;
Point prevalence abstinence from tobacco
Behaviour: Reported reduction in smoking of 38% at 3-month follow-up, with higher reported quit rates in int group at 1 month eg. Chinese = 53%, compared to con, Chinese = 18%
Attitudes: Across all participants, perceived risk increased over time F (3,192) = 12.8, p<.001.
Significantly higher levels of self efficacy among int participants (M = 11.8, SE = 0.3), con (M = 10.5, SE = 0.31, p <0.01).
Participants showed greater pros of quitting over time F(3, 192) = 8.73, p<.001

Conclusion: The intervention changed smoking related cognitions and behavior.
Recommendations:
(a)Use ways of measuring smoking status other than self reports
(b)Increase understanding of the factors that contribute to smoking cessation among Asian American women,
(c) Use a longer follow-up period (e.g., 6 – 12 months) to evaluate intervention effects

5. Taket et al, 2003
Baseline, outcome and follow-up measures: Smoking status, intentions about giving up smoking, knowledge of sources of help and attitude to giving up smoking over Ramadan
Data from smoker follow-up survey after 3 months (n = 28)
Knowledge: N/A; Attitudes: N/A
Behaviour: 41% gave up smoking during Ramadan and 13% gave up smoking after the end of Ramadan.
Data from mosque sample: 37% were smokers; 17% were ex-smokers of which 9% gave up smoking and 6% tried to stop smoking since the start of Ramadan.
Health status: N/A

Conclusions: The campaign was effective in changing attitudes, knowledge and smoking behaviour.
 Recommendations: Use details of the sources of information recalled by different language groups and respondents living in different areas to plan future interventions.

(Abbreviations: N/A = Not Applicable, M = Mean, r = correlation, OR = Odds Ratio, SD = Standard Deviation)
<table>
<thead>
<tr>
<th>Study and measures</th>
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<th>Conclusions and recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Snowdon, 1999</strong>&lt;br&gt;Baseline measures: Not taken&lt;br&gt;Outcome measures: Ideas concerning the cookery clubs; changes to family’s diet; dietary knowledge</td>
<td>(a) Knowledge: Most women increased awareness of healthier food preparation. At follow-up, all women recalled main health messages.&lt;br&gt;(b) Behaviour: Most women (7 out of 10) adopted some ideas of healthier cooking to family’s diet and sustained changes to diet.&lt;br&gt;(c) Attitudes: N/A&lt;br&gt;(d) Health status: N/A</td>
<td>Conclusions: Cookery clubs had an immediate and sustained effect on participants’ cooking practices. Recommendations: Use practical and informal cookery clubs run locally by community members to effect dietary change.</td>
</tr>
<tr>
<td><strong>2. Williams and Sultan, 1999</strong>&lt;br&gt;Baseline and outcome measures: Weight, qualitative data</td>
<td>Knowledge, behaviour and attitudes: N/A&lt;br&gt;(d) Health status: Slight reduction of overall body weight and BMI. At follow-up, 11 out of 13 women had lost weight (median loss = 3.2 kg).</td>
<td>Conclusions: The healthy eating and exercise group fulfilled social and weight loss functions. Recommendations: (a) Involve the local community and link workers in developing interventions (b) Consider issues that influence willingness to engage in PA, such as personal safety (c) Provide crèche facilities to increase attendance.</td>
</tr>
<tr>
<td><strong>3. Sun et al., 1999</strong>&lt;br&gt;Baseline and outcome measures: nutritional knowledge, dietary</td>
<td>(a) Knowledge: No significant differences in scores on nutritional knowledge and media influence between both groups.&lt;br&gt;(b) Behaviour: Significantly improved dietary</td>
<td>Conclusions: Interventions which draw on PRECEDE components can change dietary behaviour. Recommendations: (a) Use multiple measurements of dietary behaviour (b) Measure long-term effects of intervention.</td>
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</tbody>
</table>
behaviour in intervention group from a mean score of 159.9 to 172.3 (F=21.98, p<.001).
(c) Attitudes: Significant changes in intervention group in perception of diet and health from a mean score of 12.0 to 14.2 (F=6.17, p<.02), dietary instruction from a mean score of 12.7 to 13.7 (F=7.05, p<.016) and social support from a mean score of 12.8 to 16.5 (F=25.62, p<.001).
(d) Health status: N/A

(b) Focus intervention on adolescents rather than adults
(c) Consider culture, environment and social-economic factors.
(d) Use multiple media to disseminate information on food selection, preparation, storage and food label reading
(e) Control fast food advertising
(f) Educate owners/managers of restaurants/food services
(g) Involve community leaders and family members
### Table A8:
Summary of measures used, impact of interventions and conclusions of CVD studies

<table>
<thead>
<tr>
<th>Study and Measures</th>
<th>Impact of intervention</th>
<th>Conclusions and Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a) Matthews et al., 2007</td>
<td>Knowledge: Increased knowledge of CVD, risk factors and the importance of a healthy diet and physical activity among many participants. Attitude: 50.4% of returnees reported increased motivational status to changing lifestyles; Some participants increased positive attitudes towards diet and exercise Persistent barriers to change were also identified Behaviour: Positive changes in: Salt intake women eg women = 29.2% (95% CI 19.9, 38.5) Physical activity eg men = 47.2% (95% CI 29.2, 65.1) Alcohol consumption = 2.7% (95% CI -9.0, 14.0) Smoking = 13.9% (95% CI 2.6, 25.2). Health status: Reduction in: Cholesterol = 0.19mmol/l (95% CI 0.1, 0.37) Systolic blood pressure = 3.7mm Hg (95% CI 0.98, 6.7) Triglycerides = 0.29mmol/l (95% CI 0.14, 0.47) BMI = 0.30 (95% CI 0.12, 0.49). Stress in women only = 21.3% (95% CI 9.6, 33.0) Reduction in mean risk factor score for men from 28.22 to 18.14 (p&lt;.0005).</td>
<td>Conclusions: The project increased knowledge about CVD and reduced CVD risk factors, although some persistent barriers to lifestyle change were identified. Recommendations: a) Adopt targeted community approaches b) Ensure adequate resources, c) Address barriers to change d) Offer ongoing support e) Involve community organisations f) Offer a holistic model of health g) Include South Asians in wider alcohol and smoking interventions h) Monitor outcomes through longer follow-up period. i) Evaluate through RCTs j) Collect cost-effectiveness data</td>
</tr>
<tr>
<td>1b) Netto et al., 2007</td>
<td>Focus groups explored: Knowledge and understanding of CHD Steps taken to reduce CHD and barriers to taking these steps; Views of the intervention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge: Increased knowledge of CVD, risk factors and the importance of a healthy diet and physical activity among many participants. Attitude: 50.4% of returnees reported increased motivational status to changing lifestyles; Some participants increased positive attitudes towards diet and exercise Persistent barriers to change were also identified Behaviour: Positive changes in: Salt intake women eg women = 29.2% (95% CI 19.9, 38.5) Physical activity eg men = 47.2% (95% CI 29.2, 65.1) Alcohol consumption = 2.7% (95% CI -9.0, 14.0) Smoking = 13.9% (95% CI 2.6, 25.2). Health status: Reduction in: Cholesterol = 0.19mmol/l (95% CI 0.1, 0.37) Systolic blood pressure = 3.7mm Hg (95% CI 0.98, 6.7) Triglycerides = 0.29mmol/l (95% CI 0.14, 0.47) BMI = 0.30 (95% CI 0.12, 0.49). Stress in women only = 21.3% (95% CI 9.6, 33.0) Reduction in mean risk factor score for men from 28.22 to 18.14 (p&lt;.0005).</td>
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</table>
Baseline measures: Information on salt consumption behaviour, knowledge of health risks associated with salt consumption, smoking behaviour, knowledge of sources of help in quitting smoking and knowledge of health risks associated with smoking.
Outcome measures: as above

(a) Knowledge: Knowledge of health risk associated with smoking increased significantly for heart disease from 88.8% to 97%
Knowledge of sources of help in quitting smoking rose from 31% to 67%
Knowledge of risks of high blood pressure associated with salt consumption rose from 84.2% to 87.2%
(b) Attitudes: N/A
(c) Behaviour: % of respondents reporting ‘very low’ salt intake increased from 9% to 20.1%,
% of respondents that said that they ‘smoke now’ dropped from 38.1% to 29.8%
(d) Health status: N/A

Conclusions: The campaign was effective in improving health knowledge and behaviour
Recommendations:
Given the globalisation of international communication a global campaign on smoking cessation in Ramadan should be considered.

3. Khunti et al., 2007
Country: UK
Setting: Secondary schools
Study design: Quasi-experimental design, pre- and post measurements (taken after approx. 1 yr) and qualitative design

(a) Knowledge: Increased awareness of lifestyle issues.
(b) Attitudes: N/A
(c) Behaviour: Improved dietary behaviour eg. decreased proportion of pupils consuming chocolate Positive change p<.644 (95% CI .522 , .795)
Improvement in PA for 5 of the 8 PA indicators eg. increased light exercise on ≥6 days in past 2 weeks p<.0013 (95% CI 1.140, 1.723)
(d) Health status: N/A

Conclusions: The action research project involving secondary schools was a useful, but challenging collaboration. Although pupils’ lifestyle habits remained poor overall, some limited changes were indicated.
Recommendations: Include provision of implementation resources including dedicated staff time

(Abbreviations: N/A = Not Applicable, P = Positive change, PA= Physical activity, CHD = Coronary Heart Disease, CVD = Cardiovascular Disease, BMI = Body Mass Index, CI = Confidence Interval, NHS = National Health Service)