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## **A formative review of physical activity interventions for minority ethnic populations in England**

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## **Abstract**

**Background:** Physical activity (PA) levels are lower among some UK Black and minority ethnic (BME) groups than the majority White British population and a variety of tailored interventions have emerged. This study documents the characteristics and logic of local adaptations; a vital first step in evaluating such innovations.

**Methods:** An English PA dataset was examined to identify and characterise PA programmes focused on BME populations. Three case studies were conducted; employing documentary analysis and qualitative interviews. Netto et al.'s principles of adapting health promotion interventions for BME populations guided analysis.

**Results:** Out of 861 PA interventions, 57 focussed on BME populations. These typically aimed to engage the most inactive groups, improve both health and social outcomes and were largely publically/charitably funded. Tailored approaches matched Netto et al.'s five principles: using community resources for publicity; identifying and addressing barriers; developing sensitive communication strategies; working with values; and, accommodating cultural identification. Another common principle was identified: building community capacity for sustainability.

**Conclusions:** PA interventions tailored to the needs of BME groups reflect their largely disadvantaged position in society and focus on inactivity. The six principles could be used as a framework for developing, designing and evaluating tailored interventions for BME populations.

## Background

Physical activity (PA) levels are lower among many UK Black and Minority Ethnic (BME) groups than the majority White British population (1–4). South Asian populations – and Indian, Pakistani and Bangladeshi women and children in particular – are significantly less likely to meet the UK PA guidelines than the White British group (2,5). Barriers, enablers and facilitators to PA for BME groups have been explored, especially in relation to South Asian populations (6,7). Research suggests BME groups face generally similar barriers to the UK population as a whole with limitations such as childcare, motivation and lack of time predominating (7). Additional, and potentially more subtle, barriers relate to differences in perceptions about the benefits of PA, what counts as PA, community expectations about participation, and deeper socio-cultural processes of exclusion and discrimination (8). Long *et al* in their review of BME participation in sport and physical recreation highlighted the mediating effects of overt racism (e.g. verbal abuse) and racism in service delivery (e.g. exclusionary dress codes) (9). Further, patterns are complex, reminding us that individuals sharing a common ethnic identity may differ importantly in terms of gender, age, generation, migration history, socio-economic background and many other socio-demographic and individual variables (8–10).

The importance of developing ‘culturally appropriate’ or ‘culturally sensitive’ interventions that are acceptable to the communities for which they are intended is increasingly recognised (11,12). However, such terms are variously employed and understanding about how to design and deliver PA interventions that are accessible to, and effective for, BME people is still in development (13). Adaptations to PA for BME groups were considered by Liu *et al.* in a recent synthesis but solid recommendations could not be made owing to the limitations of the evidence base (14). A range of adaptations are evident, however, both in the literature on PA and public health practice more generally. A recent systematic review of PA interventions for South Asian populations identified bilingual community link workers as a way to enhance intervention acceptability and delivery particularly in areas of socio-economic disadvantage (11). PA provision that is shaped by participants and delivered within local community settings has also been shown to encourage engagement (11). The use of staff trained in cultural-competency can bring cultural sensitivity and knowledge to the delivery of PA which enhances trust and positive relationships between delivery and participants (15). PA interventions that ‘work with, rather than against’ cultural norms are recommended as a realistic and sensitive approach to increasing rates of PA (16).

Despite the limited evidence base, it is clear that a variety of approaches are being introduced on the ground. These local-level initiatives present an important learning opportunity. Given that such

local innovations are often short-lived and are rarely evaluated rigorously, this review provides a formative picture of such programmes. Furthermore, experience across public health practice indicate interventions intended to address BME disadvantage can be ineffective and even harmful if poorly designed (17). It is therefore important to examine both how and why such interventions are being shaped to meet BME needs. Understanding the intention and 'programme theory' behind adaptive design and delivery is an important first step in evaluating these innovations.

## **Methods**

This formative investigation utilises data from an English national dataset of local-level PA programmes. The dataset contains details of a total of 861 PA interventions/programmes. Data were gathered from an on-line, self-completion survey promoted by Public Health England between March-July 2014. Approximately 6,000 individuals were contacted using all media channels and who represented local authorities, clinical commissioning groups, leisure centres, walking groups, school providers, cultural and community providers, charities, employers and sports brands. The questionnaire had 65 questions. Its purpose was to establish 'what works' in PA intervention by assessing the range and 'quality' of programmes and the extent to which they were routinely and robustly evaluated (18).

For the current study, interventions were identified that included some element of tailoring or targeting for BME groups using a keyword search: "ethnic", "BME", "BAME", "relig\*", "Asia\*", "Afric\*", "Carib\*" and "Musli\*". This returned 90 interventions. Programmes were removed if they reported minority ethnic involvement that was incidental to the intervention or if ethnicity was used only as a monitoring variable. Descriptive and comparative statistics were used to document key characteristics of interventions.

As the database provided limited information on the tailored elements of interventions, selection criteria were developed to identify potential case studies of adapted PA. The criteria were that: 1) the intervention had been evaluated, 2) BME groups had been identified as a priority beyond recruitment, 3) there was adequate 'richness' in the available database and evaluation material. Interventions were ranked according to these criteria and four interventions were invited to participate. Three programmes accepted. Evaluation and service delivery documents (n=24) were examined in detail using a standardised data extraction template. Three depth interviews were conducted with the managers of each programme, structured around the template themes. Data were thematically organised, synthesised and critically evaluated using the five principles of adapted

behavioural interventions by Netto et al. (13) as a guide (see Box 1). A sixth principle – building capacity for sustainability – emerged from the review and is described in the findings below.

**Box 1 Netto et al’s five principles of adapted behavioural interventions with examples**

Principles	Examples
1. Use of community resources to publicise the intervention and increase accessibility	Use ethnic-specific media and networks, community leaders and events to publicise events
2. Identify and address barriers to access and participation	Tailor timing and location of events for BME women to account for caring responsibilities
3. Develop communication strategies which are sensitive to language use and information requirements	Bilingual facilitators; use spoken rather than written language to communicate with low-literacy groups
4. Work with cultural or religious values that either promote or hinder behavioural change	Highlight compatibility of health promotion messages with religious beliefs
5. Accommodate varying degrees of cultural identification	Account for generational and migration history difference by more intensively exposing first generation migrants to the intervention

Ethical approval was granted by the School of Health and Related Research Ethnics Committee, University of Sheffield (ref. no. 006279). Case study organisations were consulted on the presentation of data and gave us permission to reveal their identities in the interests of sharing good practice.

**Results**

**Survey analysis**

*Intervention/Programme settings, size and longevity*

Fifty seven interventions (7% of the total database) were intended, in some way, to meet the needs of BME groups. Table 1 provides a breakdown of the key characteristics of interventions. In addition, each intervention/programme with tailored elements is outlined in the supplementary table.

Delivery settings were dominated by community venues. Compared to the full sample, the use of community venues in the BME-tailored sample was significant  $\chi(1) = 32.35, p = 0.01$ . PA

interventions for BME people were also more likely to take place in outdoor ( $\chi(1) = 14.42 p = 0.01$ ) and primary care settings ( $\chi(1) = 9.26 p = 0.01$ ). The data also show a concentration of activity in London (26 interventions; 46%); a reflection of the distribution of ethnic diversity in the UK.

TABLE 1 ABOUT HERE

There is a mixed picture of the longevity of programmes for minority ethnic populations and for PA interventions generally with a large proportion short-term (around half running for 2 years or less). 3 in 10 in the minority ethnic sample had been running for 6-10+ years. There is no significant difference in timescale between the BME-based interventions and the full cohort of interventions, reflecting the high frequency of short-term interventions across the PA sector.

Programmes for BME groups were relatively small in size. More than two thirds of programmes/interventions (68%) had an annual number of participants of 5000 or less. In the main sample, one in five programmes involved 1-5000 participants per year.

#### *Intervention/programme purpose*

The aims and objectives of the programmes varied considerably with many identifying several. All but four programmes claimed to have more than one aim. Supporting PA among inactive groups was the most common (3 out of 4 organisations identified this). The activities on offer reflected this: walking (74%); group activity classes (81%); dancing (54%); sports (54%) Yoga/Pilates/Tai-Chi (58%); and chair-based exercises (53%) were particularly common.

#### *Costs, funding and evaluation*

No clear pattern of costs could be discerned from the data from the minority ethnic sample with estimates ranging widely from £1-1000 per participant. The BME-tailored interventions were more likely to be free to participants than general population-based interventions ( $\chi(1) = 17.35, p = 0.01$ ). This may reflect the type of funder since, for the BME-tailored interventions, the funder was more likely to be the local authority ( $\chi(1) = 18.74, p = 0.01$ ), central government ( $\chi(1) = 20.71, p = 0.01$ ) or a charity ( $\chi(1) = 13.79, p = 0.01$ ). More than half ( $n=33$ ; 58%) of all the BME-focussed programmes had two or more funders. The BME-tailored interventions were more likely to be externally evaluated than the general sample ( $\chi(1) = 15.90, p = 0.01$ ), possibly reflecting the requirements of public funders to evaluate programmes. The reported barriers to the ongoing development of PA programmes with the BME-tailored interventions were more likely to be the financial resources available ( $\chi(1) = 14.99, p = 0.01$ ).

#### **Case study tailoring characteristics**

As the survey was not designed to capture several of the known aspects of tailoring, the three case studies provided more detail on how and why adaptations were developed. Table 2 provides a basic summary of the case study PA interventions/programmes. Table 3 identifies some of the tailoring

techniques, using Netto et al.'s five principles as an organising tool (see Box 1). A sixth principle is proposed as an emergent theme from the review.

TABLE 2 HERE

**i) The use of community resources to publicise the intervention and increase accessibility**

The minority status of the participants in all the case study programmes was acknowledged by using community-based organisations in settings local and familiar to the participants. The Fit as a Fiddle project, for example, partnered with 39 community-based organisations across the 9 regions of the intervention. Respondents explained that the core of adaptation involved using these local resources to both publicise the intervention and also increase uptake via their established and trusted reputation. Tandrusti identified trust as the most important factor in the success of their programme. They also considered it the most challenging aspect to replicate. It was suggested that the trust invested in community organisations enabled access to existing, mainstream facilities that might at first be 'guided' by the community-based organisation and then happen independently. Tandrusti, for example, sought to open up the local swimming pool to older South Asian women using this approach:

The Head of Leisure Service at the time said no amount of advertising in the local press would have got women to come. Initially – that's one lesson learned – is that you initially have to hold hands ... be there.  
(Tandrusti respondent)

There were several practical adaptations to publicise interventions and increase uptake for example using volunteers from the same community as participants, using 'word of mouth', identifying community 'ambassadors' and consulting with representatives of BME populations prior to implementing initiatives in order to assess needs and preferences.

TABLE 3 HERE

**ii) Identification of barriers to access and participation and addressing them**

Barriers were not assumed but self-defined by participants at early stages in programme planning:

The best response was to engage as much as possible before-hand with the group you were working with and to find out from them what time would suit them, where would be a good venue, where can they get to and work with them in that way ... that's what had the most success (Every Step Counts respondent).



Approaches to addressing barriers were varied. Free and/or nominal fee PA was provided by all of the interventions; recognising the disadvantaged socio-economic position of participants. Overhead costs such as transport and paying instructors was covered by Fit as Fiddle at the discretion of their community-based deliverers. Women-only sessions were provided in all of the case studies and felt to encourage uptake particularly among older South Asian women. The security of having a familiar face at an unfamiliar setting was also a useful adaptation, for example, asking a local leisure centre to use the same receptionist over time to 'meet and greet' participants to a facility that was unfamiliar. Fit as a Fiddle reported an inclusive ethos with regard to participants' perceived barriers to PA relating to dress and faith practices. Moreover, the Fit as a Fiddle project designed a training module for staff and volunteer PA leaders to sensitise them to behaviour change barriers for older inactive minority ethnic adults and how to balance the need for engagement and motivation with the need to be "culturally receptive to their needs". Sensitivity training included issues around "language, body language ... cultural issues around diets, and cultural diets ... [and] how to raise awareness of the baseline mental health issues" (Fit as a Fiddle respondent).

**iii) Develop communication strategies that address language use and different information requirements**

Bilingual facilitators and PA leaders with community languages were characteristic of all three case studies. Low levels of literacy among older or new migrant minorities were also recognised and addressed by the use of word-of-mouth and community and family information cascade for the case study organisations. Picture leaflets were used and consulted on for Tandrusti for example:

If people don't read any language in that area; word of mouth is the best way to recruit ... Sometimes you can spend £400 on interpreting a leaflet when no-one can read it, a picture one would be better. And that's when we always go back to our groups [to ensure they are right].

Every Step Counts consulted on and used picture-based representations for the training of community walk-leaders to better meet literacy and language requirements.

Attention to the use of language was also highlighted by Tandrusti who referred to their participants as 'learners' to convey and confer empowerment and as a way of recognising earlier experiences of discrimination and exclusion:

We never say 'no previous qualifications' it's about no opportunities for education and I think that empowers people ... If you say 'no previous qualifications' then when you say 'no previous opportunities for' people are much more engaging and tell you that as well.

**iv) Identify and work with cultural or religious values that either motivate or inhibit behavioural change**

The case studies identified some areas of adaptation around religious or cultural festivals, storytelling, music and religious practice that were incorporated into health promotion messages and behaviour change models. In addition, however, all programmes sought to challenge culturally dominant perceptions about PA not being suited to older people. Two of the case studies sought to challenge the norm and practice of being 'seated to be sociable' in their programmes. Organisations and participants were reported to be generally receptive to a different way of thinking around PA for older people once programmes were pitched in terms of the health benefits of making small changes. A prerequisite to this however was the demonstration of cultural understanding and trust in the messenger (see principle i. above).

**v) Accommodate degrees of cultural affiliation in the planning and evaluation of targeted interventions**

Tandrusti were sensitive to heterogeneity within particular ethnic groups, particularly the varied needs of different generations. They reported that single-ethnicity services were not popular with British-born people: "we have a second and third generation they don't want a specific BME service. They're using mainstream services". Although focussing on BME groups, these were increasingly diverse and mixed and Tandrusti sought to encourage mixing between groups. Nevertheless, the case studies organised PA around commonly self-affiliating groups e.g. Yemeni, Polish, Pakistani whilst recognising affiliational intersections with socio-economic group, gender, family status and migration history. Importantly, affiliation was self-defined. 'Buddies' with similar backgrounds were used in Fit as a Fiddle to encourage engagement and retention.

**vi) Build local capacity for sustainability**

In addition to the five principles identified by Netto et al., a further principle was evident across our three case studies. All these programmes embedded within their approach a focus on building capacity among the target population to deliver interventions with the intention of making them sustainable in the long- term. This emerged from a consultative approach to developing interventions that encouraged participants to 'co-produce' and take ownership of them. Every Step Counts sought to train community members to run walking groups themselves. Fit as a Fiddle also trained volunteers and ensured participants engaged in mainstream sport/PA services and combined PA with mental wellbeing and dietary

interventions. Building capacity included developing confidence and addressing misconceptions about local mainstream facilities as 'not for us'. For Fit as a Fiddle this was manifest in a training module that was designed to support volunteers and organisations. It also presented an on-going challenge to community-based organisations that could potentially support PA interventions:

The organisations that we worked with, the delivery organisations, they need that capacity building to enable them to change, enable them to empower older people to take responsibility for their own health but that takes time and takes effort (Fit as a Fiddle respondent)

## **Discussion**

Main finding: A substantial number of PA interventions in England are seeking to meet the needs of BME populations. Case studies of established initiatives suggest that effective tailoring is multifactorial and includes a core focus on consultation and community capacity building.

What is already known? It is known that rates of PA are relatively low among some BME groups in the UK. Recent data also show that the rate of decline in sport and PA participation over time in England is highest among socio-economically disadvantaged and BME groups (19). A variety of attempts have been made to tailor PA to the needs of BME people and results have been partial and inconclusive (14). It is known that tailoring interventions that are 'culturally sensitive', addressing cultural competency in staff, basing interventions on community preferences and in community settings are generally beneficial (11,13,14).

What this study adds: This study uses and adds to a unique dataset that provides contemporary information on the 'state-of-the-field' of PA provision for BME groups in England. It shows how PA programmes for BME groups are focussing on engaging inactive groups and are more likely than other PA programmes to be funded by public and charity funds. This reflects the generally disadvantaged position of BME populations in the UK but also makes PA programmes more vulnerable to changes in public and charity spending capacities and priorities. This makes the principle of embedding capacity-building for sustainability into programmes important and this was an approach that was being adopted by the case study organisations. It is also a principle that can be added to those set out by Netto et al. in their examination of the principles of adaptation for BME health promotion interventions (13). Finer-grained analysis of case studies illustrated aspects of PA adaptation that have been relatively unexplored. It revealed that programmes adopted a package of adaptations. While a number of 'surface adaptations' were evident, what seemed more important was an underlying commitment to an organisational approach or *ethos* of being community-led and

concerned with participant empowerment; an ethos reflected in other public health adaptations for BME populations (20). Case study organisations regarded community trust and long-term embeddedness of community-based delivery organisations as a pre-requisite to the success of adaptation. This ethos ran through what might be regarded as 'surface' adaptations (those that focus on observable differences between groups such as dress codes) if applied in isolation (20).

Findings also indicate that the most vulnerable populations (in terms of social position and health risk) may require more bespoke tailoring; established, less vulnerable populations with knowledge of/familiarity with 'mainstream' provision may require less. This is consistent with a needs-based approach to public health and reflects findings on first generation South Asian populations, for example, requiring greater support and tailoring to encourage PA uptake (1).

Limitations: The survey was cross-sectional, represented programmes in England and respondents were self-selected. This encouraged bias towards established, longer-term PA provision and limits transferability. As PA interventions are characteristically short-term, it is likely that many interventions are not represented. The case studies were selected partly on the basis of existing available evaluative evidence. As many interventions are not robustly evaluated, we are not able to establish if the characteristics of the case studies represent practices across PA for BME groups. Although the case studies engaged with ethnically diverse populations, South Asian groups predominated. This limitation points to a need for future work to encompass a wider range of ethnicities and contexts. There is also a need for evaluative work to examine whether and how these principles translate into better levels of access and better outcomes in terms of levels of PA and improved health (13). This study explores which approaches are being used; more research is required on the effectiveness of adaptive design and delivery (14).

## **Conclusion**

The work emphasises the multi-faceted nature of adaptations to PA for BME groups in England. It adds to Netto et al.'s analysis of how principles of adapted health promotion interventions, including PA interventions, are demonstrated in practice. These principles of using community resources, identifying and addressing barriers to PA, developing communication strategies, working with cultural values, accommodating cultural affiliation and building capacity and confidence represent the backdrop to working with and encouraging PA participation among under-represented groups. These offer a framework for designing, delivering and evaluating PA interventions for BME groups.

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