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Developing culturally adapted lifestyle interventions for South Asian migrant populations: a qualitative study of the key success factors and main challenges

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ABSTRACT

Objectives: South Asian migrant populations have a high risk of non-communicable diseases, such as type 2 diabetes (T2D). The aim of this study is to provide in-depth insight into key success factors and challenges in developing culturally adapted lifestyle interventions to prevent T2D within South Asian migrant populations.

Study design: The study has a qualitative research design.

Methods: In-depth interviews, using a semi-structured interview guide, were conducted with eight researchers and project leaders from five studies of culturally adapted lifestyle interventions for South Asian migrant populations. Data were analysed using a grounded theory approach.

Results: Four main themes emerged as key factors for success: 'approaching the community in the right way', 'the intervention as a space for social relations', 'support from public authorities' and 'being reflexive and flexible'. Two themes emerged as challenges: 'struggling with time' and 'overemphasising cultural differences'.

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Conclusions: Our findings augment existing research by establishing the importance of cooperation at the organisational and institutional levels, of fostering the creation of social networks through interventions and of acknowledging the multiplicity of identities and resources among individuals of the same ethnic origin.
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Introduction

Today, more than five million people of South Asian origin live in Europe. People of South Asian origin have a higher risk of developing type 2 diabetes (T2D) at a younger age and at a lower body weight than their European counterparts.[1,2] This increased risk is partly because of lifestyle changes and nutritional transition after migration.[2,3] Consequently, prevention of T2D for South Asian people living in Europe is a priority to improve their well-being and to reduce inequalities in health.[4,5]

Existing studies indicate that diet and physical activity interventions are effective in preventing T2D.[6,7] However, interventions appear to be more effective for host (European origin) populations than for South Asian migrant populations.[3,8,9] Culture is a key component of health maintenance and health promotion,[10–12] and there is growing awareness that interventions need to be culturally adapted to meet the needs of, and thereby be effective for, specific population groups.[13,14] Cultural adaptation aims to enhance the effectiveness of interventions by grounding them in the lived experience of the participants.[15] More specifically, cultural adaptation has been defined as 'the systematic modification of an evidence-based treatment or intervention protocol to consider language, culture and context in such a way that it is compatible with the client's cultural patterns, meanings and values'.[15] As Resnicow pointed out, cultural adaptation needs to go beyond the 'surface structure' of interventions and reach its 'deep structure'.[13] Surface structure refers to observable characteristics, such as language, while deep structure encompasses cultural, social, environmental and psychological factors. Strategies for culturally adapting health promotion interventions have been described in several studies.[9,16–20] Evidence regarding the effectiveness of cultural adaptations is promising but not conclusive.[8,19,21–23] For instance, an evaluation of culturally adapted lifestyle interventions targeting South Asian populations showed only moderate effect.[24] This raises the question of whether the strategies used in these interventions are entirely appropriate and indicates that much remains to be learned about how to adapt interventions to best meet the needs of South Asian migrant populations to reduce their risk of T2D.[24,25]

As a part of the European Union (EU) project 'Innovative Prevention Strategies for type 2 diabetes in South Asians Living in Europe' (www.eurodhyan.eu), a systematic review of lifestyle interventions to prevent T2D among South Asian populations was performed to identify which elements contribute to their acceptability, reach and effectiveness.[24,26] With a few exceptions, the articles included did not provide much detail about how the development and implementation of interventions actually took place—what functioned well and what did not. Therefore, we decided to gather more information by conducting qualitative interviews with key researchers involved in interventions of this type. The aim of this study is to provide in-depth insight into the success factors and challenges in developing these culturally adapted interventions to prevent T2D within South Asian migrant populations. The results of this study will provide valuable information for designing health promotion initiatives for South Asians at risk of developing T2D.

Methods

Qualitative research is particularly useful to understand how people interpret their experiences, explore meanings and provide new understanding of a phenomenon.[27] This study is based on qualitative interviews with key researchers who conducted lifestyle interventions for the prevention of T2D with South Asian migrant populations.[21,28–34] Research interventions from which qualitative insights might be gained were identified from two systematic reviews: the one already mentioned[26] and another previously conducted by members of our research team.[16] Five relevant studies were selected based on the effect of the intervention and the relevance in terms of cultural adaptation, the research design and the relevance of the population. Members of our team had already interviewed five researchers involved in three of these studies as part of a previous study on cultural adaptation of intervention for smoking cessation, physical activity and healthy eating for African, Chinese and South Asian origin groups.[16] Given the common purpose between the two studies, we agreed to include and reanalyse those interviews in the light of the research questions of the present study. Despite some possible methodological limitations, secondary analysis of interviews can prove fruitful for focussing on concepts that were present but not specifically addressed in the first analysis.[35,36] In addition, three new interviews were conducted, resulting in data being analysed from a total of eight interviews related to five interventions. All project leaders of the five selected research interventions were interviewed as, because of their role, they could provide experiences on the whole process. In addition, for two interventions, we interviewed two researchers and one dietitian; this was because of the complexity of the interventions and the utility of gathering experiences with informants having different roles in the project and therefore, could contribute with different

views on the process of cultural adaptation. The field researchers and dietitian's roles provide insights more closely reflecting how it would actually be to try and operationalise such health programmes within these communities. Detailed information about the interventions included in the study and the informants are provided in Table 1.

A specific semi-structured interview guide was developed for the new interviews conducted in this study. The interview guide for the three new interviews included topics that were also asked about in the existing interviews to facilitate the secondary analysis.[36] Informants were asked to describe the intervention design and participants; the implementation; the most important contextual factors to consider when designing an intervention for South Asian populations; and, finally, the lessons learnt. Interviews were conducted either face to face or by phone, with durations varying from 60 to 90 min. All eight interviews were audio recorded and transcribed verbatim.

Analysis of the interviews

Data analysis was conducted using grounded theory.[37] Coding was aimed to identify emerging themes related to developing and conducting these interventions. Codes were generated using an iterative inductive process.[37] Line-by-line coding and the informants' own words were used to generate the first series of codes. Two researchers (L.T. and E. Davidson) independently analysed the interviews and agreed on a preliminary code list and emerging themes. Codes were then revised and synthesised into categories and theoretical codes. A preliminary analysis was presented and discussed among the research team. Theoretical codes and main categories are described in Table 2. The transcripts were coded using NVivo.10.

Results

Informants appeared pleased to convey experiences from their research. They talked about how their projects were conceived and how they subsequently evolved and their outcomes. They were open about obstacles that they faced and admitted that interventions did not always progress as expected. Goals had to be revised, field work took more time than planned and new aspects emerged as important. The interviews provided rich insights into the experience of developing culturally adapted interventions. Six main themes emerged. Four related to the key factors for success: 'approaching the community in the right way', 'intervention as a place for social relations', 'support from public authorities/other relevant actors' and 'being reflexive and flexible'. Two themes represented the main challenges: 'struggling with time' and 'overemphasising cultural differences' (Table 2).

Key factors for success

Approaching the community in the right way

A common theme among informants was their difficulty in establishing trust with intervention participants. They found that participants from South Asian communities were often sceptical, or even frightened, about being involved in a study.

> *I think minorities need to be reached appropriately. They need to be treated with a lot of respect because they are migrant, and they are always scared […] (Inf.2).*

Also, interviewees mentioned communities' fear of exploitation and wariness at repeatedly being asked to participate in studies.

> *There's been a lot of research on the South Asian community in the last few years, and people said to us, Oh, you're asking again, you know, well we never hear anything, and we never get anything back and, you know, this takes us time and energy (Inf.3).*

For these reasons, many informants emphasised the importance of approaching the community 'in the right way'.

> *You cannot just knock on their door and say, Okay, this is the paper; take it, read it, it is in your language, and follow the dietary guidelines […] I need to have an understanding, I need to engage this community, I need to identify the leadership which is within the community, I need to identify my community volunteers. I need to identify existing groups and I need to know the community (Inf.2).*

One strategy was to involve researchers or team members belonging to the same ethnic minority community. This created a bridge between the research team and intervention participants and facilitated trusting relationships.

> *It probably did make a difference […] that some of our team were very well known in the community, and I think they probably had more of [an] effect. I think in the South Asian community, you kind of build up gradually a sort of respect. […] You know, [get] to know somebody, and then, they'll listen to you (Inf.1).*

Other strategies included finding the appropriate channels, establishing relationships built on trust, involving participants and sharing the results with the community.

> *I made contact with a woman of Pakistani origins. She introduced me to a politician. I met him, and there were other men, eight or ten. I talked to them, and they were extremely willing to cooperate. They helped me with everything […] They helped me with the mosque, to get the right contacts. I asked them about everything (Inf.6).*

Interventions as a space for social relations

Some of the informants reported that a paucity of opportunities for social interactions characterised the lives of intervention participants.

> *Migrant people aren't established, they aren't settled, they don't necessarily have wide social networks, and they don't have a lot of social capital (Inf.5).*

Interviewees found that making interventions a tool for fostering social relations with other members of the same community was an important factor, as this motivated people to participate in the intervention and in maintaining the new 'good habits'. An informant recalled, for instance, that participating in the intervention contributed to creating stronger networks among women living in the same neighbourhood.

> *It was not planned as part of the intervention. But because the women were from the same suburb, it happened that they had children attending the same school. Now, that actually evolved to*

Table 1 – Description of the main characteristics of the interventions conducted and researchers interviewed in this study.

Name/topic of the project	Intervention design	Intervention components	Participants	Duration of the intervention	Location and year of intervention	Informants and year of the interview
Culturally appropriate diet and lifestyle intervention to treat metabolic syndrome in female Pakistani immigrants residing in Melbourne.[32]	Intervention study Family focus	Both physical activity and diet	Pakistani women with metabolic syndrome (aged 20–50 years)	12 weeks	Melbourne, Australia; study published in 2008	Project leader (2010); main researcher (2010)
Reduction of abdominal fat and chronic disease factors by lifestyle change in migrant Asian Indians.[34]	Group intervention study	Both physical activity and diet	Asian Indians (both women and men) aged >50 years	5 months	Auckland, New Zealand; study published in 2007	Project leader (2010)
Prevention of Diabetes & Obesity in South Asians (PODOSA) lifestyle intervention on weight change in South Asian individuals in the UK.[31]	Family-clustered randomised controlled trial	Both physical activity and diet	Men and women of Indian and Pakistani origin, aged 35 years or older	3 years	Scotland, UK; 2007–2009	Project leader (2009); main dietitian (2010); researcher (2016)
DH!AAN lifestyle intervention in general practice to prevent type 2 diabetes among 18- to 60-year-old South Asians.[28,33]	Randomised controlled trial	Both physical activity and diet	Men and Women Hindustani Surinamese	1 year	The Hague, the Netherlands	Main researcher (2016)
Physical Activity and Minority Health (PAMH) intervention effects on physical activity and insulin levels among men of Pakistani origin.[29,30]	Randomised controlled trial	Physical activity	Men of Pakistani origin	5 months	Oslo, Norway; 2009	Main researcher (2016)

Table 2 – Main themes related to 'success' and 'challenges' in the implementation of interventions as emerged from the analysis of the interviews.

Key factors of success	
Approaching the community in the 'right way'	• Build relation of trust • Overcome fear • Identify 'door opener' • Involve the community • Use team workers from the same community • Capitalise on the desire for change
Intervention as a space for social relations	• Create opportunities for building networks • Mobilise existing resources • Make participants feel at ease
Support from pubic authorities	• Build alliances with local institution • 'Bend' some rules • Build capacity • Find creative solutions
Being reflexive and flexible	• Acknowledge different values and practices • Adapt to the participants' pace
Main challenges	
Struggling with time	• Recruitment • Language and communication • Cultural adaptation • Lack of long-time investment and commitment
Overemphasising cultural differences	• Limitations of using ethnicity to define groups • Differences in acculturations • Differences in social class • Paternalism

> *the point where they were walking the children to school, and they would meet other women, who were also part of the trial at the school [...] (Inf.1).*

Similarly, in another intervention, the informant stated how playing floorball (a type of floor hockey) became a regular activity that continued after the intervention ended; the participants, who mostly had not known each other previously, gathered, gave each other suggestions and encouragement and enjoyed being together and using their mother tongue.

> *We decided to have only Pakistani men because they could function better as a group. Maybe it was not ideal in terms of integration [...] But I wanted a group that functioned. They talked much Urdu between them (Inf.6).*

Support from public authorities

Informants reported that promoting lifestyle changes was difficult and that support from the local community could make a difference. The importance of having the support of local authorities (or other relevant organisations) was stressed, particularly for interventions involving physical activity, to create appropriate environments that could facilitate the participation of ethnic minority communities. A typical example was the use of swimming pools for Muslim women.

> *One of the big things we were able to actually implement was female-only swimming sessions at a couple of the local swimming pools. It was quite a battle to start with because [...] we were actually breaking equal opportunity laws by doing that. I thought it was fantastic in terms of what that was doing; yes, our Pakistani or Muslim women in the area felt comfortable enough to go to the pool and exercise (Inf.1).*

In other interventions, a lack of cooperation with local authorities was shown to represent an obstacle in keeping up physical activity after the intervention ended.

> *The two activities they would like to do the most are walking or swimming, and they're sad that there's no longer free swimming. They're also sad because certain city councils used to offer swimming classes for women only, that had women as lifeguards, and they could do those things, but if [the classes are] not offered in that way then they can't attend (Inf.4).*

The importance of cooperation with public authorities was also emphasised by an informant working on an intervention in a routine healthcare setting. This intervention was unsuccessful, partially because of a lack of time, motivation and preparation on the part of the nurses in the project.

> *I think if I were to carry out the whole study again, we would use specific research nurses. But we specifically went to standard care because we wanted to be able to implement the study. [...] But there were some practical issues [...] I think there is a drawback to working with people in practice (Inf.7).*

Being reflexive and flexible

When informants described how cultural adaptation was carried out, some reflected on their own roles (a researcher being part of the main population) and on the importance of having a reflexive attitude towards one's own conceptions and beliefs.

> *Often, because you're a part of the mainstream, you do not realise that there are other ways of doing things, and you alienate people by having your own way of doing things (Inf.2).*

Several informants stated that the interventions, despite attempts to make them culturally adapted, were actually based on preconceptions and expectations modelled on 'ideal' populations and were often too ambitious: changes and compromises had to be made to move at the participants' pace.

For instance, an informant leading an intervention with a physical activity component admitted not expecting participants to be in 'such bad shape' and confessed that someone was injured at the beginning of the intervention.

> *Injuries were a challenge. That was something we learned: that we must lower the intensity of the exercises. We overestimated their physical shape. They were in extremely bad shape, worse than I had imagined. So you could say we had some reflection on the intensity level (Inf. 6).*

Stressing the importance of food in South Asian culture, a researcher mentioned having to proceed carefully in introducing dietary changes.

> *We let them eat the same sort of foods but with a healthier element to them—just cooked with slightly less fat, slightly less sugar. The cooking method was changed; for example, instead of frying, we could say, Well, why don't you try putting this into the oven and use less fat? So there was a slight adaptation of recipes (Inf.4).*

Main challenges

Struggling with time

Time pressure was a recurring theme in the interviews. Most informants reported that considerable time was needed to recruit participants from ethnic minority communities, both given their lack of trust and the need to culturally adapt the intervention. Consequently, timelines had to be revised, and projects could not always be completed within the given time.

> *Initially, the project was going to be far broader than it was, but we ended up having to narrow it down based on not only budgetary constraints but also the timeframe needed to actually get the work done (Inf.3).*

The reasons for delays were deeply connected with cultural adaptation and the time and resources needed for a 'cultural' translation.

> *We had an English Urdu, English Hindi and English Punjabi speaker; we went through every single question and ensured that it was culturally valid and that the meaning of the question was the same in English, Punjabi, Urdu and Hindi (Inf.3).*

In addition, as mentioned previously, time was needed to approach the communities and establish relationships built on trust to facilitate recruitment for the interventions.

> *Our main challenge has been in recruiting people to come forward for the screening stage. This proved much more time-consuming, [...] challenging and costly than had been predicted (Inf.3).*

Overemphasising cultural differences

Although there was consensus among informants on the need for cultural adaptation, the risk of overemphasising cultural differences was also raised. Underestimating the intersectionality of factors such as social class, education, age and differences in acculturation when planning interventions was clearly a concern.

> *I mean, we constantly get bombarded with the message that obesity is a poor man's issue effectively. So, I mean, you can define a sub-population anyway you like. This intervention just happened to generalise about people on the basis of their ethnicity without attention to their other personal characteristics (Inf.5).*
>
> *Say, for example, older participants were more comfortable with stereotypical recommendations about Asian cooking methods, whereas younger people made much more diverse choices, you know, a hybrid of ethnic diet, and they were made uncomfortable by talking about traditional food preparation methods (Inf. 5).*

Discussion

The aim of this article was to provide in-depth insights into the key success factors and challenges in developing culturally adapted research interventions to prevent T2D for South Asian migrant populations. Four themes emerged relating to the key success factors, and two themes emerged relating to the key challenges. From these themes, main points can be distilled of how to approach future intervention development for ethnic minority communities. One is to start the work of co-creation with community leaders and target populations at an early stage—particularly to develop trust and design interventions that truly meet their preferences and needs. It is important to plan for more time when developing adapted interventions vs mainstream interventions. There is also a need to more carefully consider the heterogeneity within population groups and design interventions with attention to intersecting contexts, determining which are of prime relevance to the community. Finally, proactively working to gain support from public authorities or other relevant local actors has been highlighted as important to facilitating the cultural adaptation and sustainability of initiatives.

Most of these aspects are consistent with findings from previous literature on adapting interventions for migrants and ethnic minority populations,[11,17,18,21,22] in particular, the importance of approaching the community in the right way and involving appropriate stakeholders;[11,12] building social relations and supportive social environments;[11] recognising heterogeneity within migrant populations, including the influences of acculturation;[11,12] and the logistical constraints on interventions in terms of funding and time.[11,16] Our study adds to the already-existing knowledge of cultural adaptation of interventions in that, by listening to researchers' own experiences and reflections, we got a better understanding of the process of cultural adaptation in practice and aspects affecting the 'deep structure' of interventions. The study has highlighted the tensions existing between the recognised need to adapt interventions and the lack of support for this process through constraints in both research processes (time, funding) and health service settings (support from policy makers, appropriate training in the health sector). Generating 'high-level support' or a 'culture for cultural adaptation' seems pivotal to moving forward. Recognising the specificity of promoting health interventions within migrant populations is also of fundamental importance. Recent studies on the determinants of diet and physical activity among minority populations[38–40] have identified the presence of overlapping determinants between majority and minority populations. However, they also indicated that the 'migratory context' emerged as a cross-cutting factor influencing these determinants. This correlates with our findings. For instance, approaching the migrant community in the right way is particularly important because minorities are likely to encounter segregation and stigmatisation.[41] Awareness of this situation and efforts to build trusting relationships can increase the reach and acceptability of interventions. The importance of shaping interventions within a social context[19] also appears particularly relevant in a migratory context, where individuals may suffer from isolation and a reduced social network.[42] Interventions that foster social relations can not only increase the retention of participants but also strengthen social capital at the community level, which has been associated with positive health effects.[43,44] A challenge that remains is how to address diversity within a defined cultural or ethnic group. As has been underlined by previous studies, culture and ethnicity are not synonymous, and wide differences exist within groups because of many intersecting contexts, including socio-economic status and acculturation.[10,15,45] For this reason, new approaches that acknowledge

the multiplicity of identities and resources among individuals with the same ethnic origin are needed.

A limitation of the study is that some of the interviews were collected in a previous study. The process of secondary analysis of qualitative data presents some methodological issues such as the degree to which the data are amenable to a secondary analysis, the extent to which the research purpose of the secondary analysis differs from that of the primary study and trustworthiness of interpretation.[35] According to Heaton, the data 'fit' in qualitative secondary analysis depend on three considerations: first, the extent of missing data; second, the extent of the degree of convergence between the questions posed by the secondary and original research; and, third, the methods used to produce the data.

Helping to overcome these challenges is the fact that the interview guide used for the second round was modelled to include the themes and questions that were present in the first one—this reduced the risk of 'missing data', both studies aimed to understand cultural adaptation of lifestyle (physical activity and nutrition) interventions in the same (South Asian) population, and in both cases, semi-structured qualitative interviews were used.

Conclusion

Migrant populations of diverse ethnic backgrounds are increasing within Europe, and South Asian populations are at particular risk of non-communicable diseases, such as T2D.[46] Therefore, it is of pivotal importance to implement appropriate health promotion initiatives for this population. This study sought researchers' own reflections about their projects and has helped to disentangle the key success factors to pursue in future interventions and the key challenges that remain. Our research has highlighted the added dimensions of establishing cooperation at the organisational and institutional levels and fostering the creation of social networks through interventions, which we perceived as 'creating a supportive culture for adaptation'.

Author statements

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Ethical approval

The study was approved by the Committee for the Protection of Human Subjects (CPHS) and by the School of Health in Social Science from the University of Edinburgh's Research Ethics Committee.

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Competing interests

None declared.

Author contributions

L.T. conducted the analysis of the interviews and drafted the manuscript; E.B. contributed to designing the study, interpreting the data and revising different versions of the manuscript; K.S. contributed to designing the study and commented on different versions of the manuscript; E. Davidson conducted some of the interviews and commented on different versions of the manuscripts; S.Q. contributed to designing the study, participated in the analysis and commented on different versions of the manuscript; B.K. designed the study, conducted some of the interviews, participated in the analysis and commented on different versions of the manuscript; and E. Diaz contributed to designing the study, conducted some of the interviews, participated in the analysis and commented on different versions of the manuscript. All authors have approved of the final article and validated the contents.

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