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Abid Dogra, Sufyan, Rai, Kiran, Barber, Sally et al. (3 more authors) (2021) Delivering a childhood obesity prevention intervention using Islamic religious settings in the UK : What is most important to the stakeholders? Preventive Medicine Reports. 101387. ISSN 2211-3355

https://doi.org/10.1016/j.pmedr.2021.101387

Preventive Medicine Reports 22 (2021) 101387

Contents lists available at ScienceDirect

Preventive Medicine Reports

journal homepage: www.elsevier.com/locate/pmedr

Delivering a childhood obesity prevention intervention using Islamic religious settings in the UK: What is most important to the stakeholders?

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ARTICLE INFO

Keywords:
Islamic religious settings
Mosque and madrassa
Childhood obesity prevention
Intervention design and delivery
Health and religion
Intervention acceptability
British Muslims

ABSTRACT

Ten per cent of the childhood population in the UK are of South Asian (SA) origin. Within this population, over 40% are living with overweight or obesity. The majority of SA children are Muslim and attend Islamic religious settings (IRS) daily after school. Because of their reach and influence, IRS may be an appropriate channel for obesity prevention initiatives. We conducted 20 in-depth interviews with parents of children attending IRS, 20 with Islamic leaders, and 3 focus group discussions with 26 managers and workers of IRS in Bradford and Birmingham. Topic guides were developed, interviews and focus group discussions were audio-recorded, transcribed, and analysed thematically. Muslim parents, Islamic leaders and IRS staff were supportive of the delivery of obesity prevention interventions for children using IRS. Participants identified important components of an intervention including: Prophet Muhammad (PBUH) as a role model for healthy lifestyle; healthy diet, physical activity, and organisational behaviour change within IRS. Participants suggested that Islamic narrative on healthy diet and physical fitness could increase delivery uptake. Staff showed willingness to conduct physical activity sessions for boys and girls. Barriers for the intervention delivery were poor funding systems and time constraints for staff. All participant groups thought that it would be possible to deliver a childhood obesity prevention intervention. Interventions should be co-designed, culturally and religiously sensitive and combine the scientific guidelines on healthy living with Islamic narrative on importance of healthy diet consumption and physical activity.

1. Background

Obesity in children is associated with physical, social and psychological health problems, and tracks to adulthood, with subsequent increased risk of chronic diseases (Lobstein et al., 2004; Whincup et al., 2010). Forty per cent of South Asian (mainly Pakistani and Bangladeshi) children (aged 10–11 years) in the UK live with overweight or obesity compared with 32% within White British children (Office of National Statistics, 2017). Ethnic inequalities in obesity in the UK result from a combination of metabolic, socioeconomic, cultural and behavioural factors (Bhopal et al., 1999; Whincup et al., 2010), with social and environmental factors contributing the most (Law et al., 2007).

Dietary practices tend to be less healthy in South Asian young people and second generation migrant families (Gilbert & Khokhar, 2008). Halal (Islamically permissible) food and meat products are an essential aspect of the diet for South Asian Muslims (Rawlins et al., 2013) limiting their food purchasing choices. Average consumption of fruits and vegetables is also lower among the South Asian populations compared to the white British population (Leung & Stanner, 2011). Low levels of physical activity among South Asian children, particularly girls, is another important contributor to childhood obesity (Hornby-Turner et al., 2014). Cultural practices and beliefs, such as preference for driving instead of walking (Pallan et al., 2012) account for some of this behaviour. South Asian children and families are geographically

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https://doi.org/10.1016/j.pmedr.2021.101387
Received 7 December 2020; Received in revised form 28 February 2021; Accepted 15 April 2021
Available online 24 April 2021

concentrated in deprived areas (Falconer et al., 2014) which further increases risk of childhood obesity (Higgins et al., 2019; Salway et al., 2020). Interventions to enhance physical activity levels of South Asian children in the UK are lacking (Duncan et al., 2008). To our knowledge, only five studies worldwide have tested the effectiveness of obesity prevention programmes in this population (Brown et al., 2015). These programmes were based in schools with little or no parental involvement and had mixed results (Brown et al., 2015). Parental and family involvement in intervention and an enhanced understanding of cultural contexts are particularly important to address obesity among South Asian children (Pallan et al., 2012; Waters et al., 2011). Obesity prevention programmes for children outside of the school settings have not been explored as much, and may be more promising (Taylor et al., 2013).

Islamic leaders play an influential role in shaping British Muslims' life choices with practising Islam (Dogra, 2019). Over two-thirds of British Muslims are of South Asian origin (Muslim Council of Britain, 2016) and data have shown 91% of South Asian Muslim children living in the city of Bradford go to a mosque or a madrassa (supplementary schools for Islamic learning) after school for Islamic education (Dogra & Barber 2019). For afterschool and community-based health promotion interventions, Islamic religious settings (IRS) such as mosques, madrassas, Muslim community and sports organisations, or women's circles to study Islam can be useful venues to encourage healthy lifestyles, including promoting healthy eating and physical activity (Adab et al., 2014; Brown et al., 2019; Pallan et al., 2013; Sheikh, 2007; Tomalin et al., 2019). A systematic scoping exercise found IRS in the UK are often voluntarily involved in health promotion (Rai et al., 2019) and may be appropriate settings for the delivery of obesity prevention interventions. Previous research using this approach in relation to smoking cessation has proven to be acceptable and feasible (Ahmed & King, 2012; Ainsworth et al., 2013; Ghouri et al., 2006). To date there is limited evidence on whether a similar strategy could be useful in relation to healthy eating and physical activity promotion. There is uncertainty on how a childhood obesity prevention intervention could be delivered by using or involving IRS. The current study addresses this knowledge gap and dearth of literature. The aim of our study was to investigate how a childhood obesity prevention intervention using Islamic religious settings in the UK could be delivered.

2. Methods

We used a qualitative research methodology. Our methods were in-depth interviews and focus group discussions and our analysis was thematic. We took an inductive approach where the aim was for the findings to arise from the voices of participants. As such, we did not apply an existing theoretical framework to the dataset.

2.1. Participants

We conducted 20 in-depth interviews with Islamic leaders and 3 focus group discussions with IRS workers/managers (n = 26), another 20 in-depth interviews with parents of children (5–11 years old) attending IRS. We recruited research participants from two English cities with a high density of South Asian Muslim population, Bradford (24%) and Birmingham (22%). Research participants were recruited from three categories of people (parents of children attending madrassa, Table 1A; and Islamic leaders, IRS workers/managers; Table 1B). Purposive sampling sought to include participants with a range of markers of identity like geographical location (Bradford, Birmingham), sex (male, female), ethnicity (Pakistani, Bangladeshi, Indian), place of birth (UK or abroad), and first language (English or others).

Of the parent sample, 12 were mothers and 8 were fathers, 15 were Pakistani and 5 were Bangladeshi, with an age range of 30 to 46. Parents had between one and four children. Of the Islamic leaders, workers and managers sample, 14 were Pakistanis, 3 were Indians (Gujratis), 2 were Arabs and 1 was Bangladeshi, with an age range of 24 to 69. 13 Islamic leaders, workers and managers were born in the UK, 4 in Pakistan, 1 in India, 1 in Algeria and 1 in Yemen.

2.2. Researchers and language

The interviews and focus group discussions were conducted by two researchers (SD and KR). SD is male, fluent in Punjabi, Urdu, Arabic, Persian, and English, and based in Bradford. KR is female, fluent in Punjabi and English, and based in Birmingham. SD conducted interviews with most male participants and KR with mainly female participants in order to facilitate access. All interviews and focus group discussions were conducted in English as this was preferred by participants. Participants used words in Arabic, Urdu, and Punjabi while responding in English, particularly while discussing Islamic rituals or South Asian food habits.

2.3. In-depth interview and focus group discussion

A topic guide was developed from a literature review and prior learning from other related work, including a scoping review and mapping exercise (Rai et al., 2019). The topic guide was tailored to each participant group (parents, Islamic leaders, IRS managers and workers) but had substantive components which were similar throughout. We focused on examining attitudes and beliefs in relation to: healthy dietary habits, physical activity, sleep/sedentary time and structural/organisational changes within IRS, and tailored a topic guide after team discussed findings from initial interviews. All participants gave written, informed consent to take part in the study. In-depth interviews and focus group discussions were audio recorded and transcribed verbatim. Pseudonyms were used. The duration of in-depth interviews was 45–60 min and 60–90 min for focus groups.

2.4. Analysis

Thematic data analysis (Braun & Clarke, 2012) followed five stages: data familiarisation, theme identification, indexing, charting and mapping the data. NVivo 12 was used to organise coding. SD and KR collaboratively developed the coding framework, based on repeated reading of transcripts and discussion of their fieldwork impressions. They each coded the same four transcripts against the initial coding framework and then iteratively modified it. SD, KR and LS then met to discuss how the data fitted against the codes and the final framework of codes and sub-codes was agreed. SD then conducted further interpretative work to write up the findings, sense checking with KR and LS where appropriate.

During coding of interviews, we were aware of overt saturation and repetition of responses from participants. Therefore, the research team decided to code half (20 out of 40) of the in depth interviews transcripts and all 3 focus group transcripts in NVivo 12 and then read the rest of the transcripts (remaining 20 interviews), only explicitly coding if data was discordant. We ensured that the interview transcripts selected for coding were representative of the dataset as a whole by taking 10 from Bradford and 10 from Birmingham, making sure that 10 were parent participants and 10 were Islamic leaders, workers and managers. This 50/50 split also continued for gender with 10 being male and 10 being female interviewees.

3. Findings

Overall, Islamic leaders, IRS staff and Muslim parents in Bradford and Birmingham thought that it would be possible to deliver childhood obesity prevention interventions using Islamic religious settings. Participants discussed the practicalities around the delivery of an intervention and identified the following themes as important intervention components: Using example of Prophet Muhammad as a role model on

healthy life style; tackling cultural influences on healthy diet and physical activity, and the need for organisational behaviour change within IRS. However, their willingness to engage with an IRS based intervention had caveats around certain components of delivery. Table 2 presents the themes, practicalities and caveats around delivering childhood obesity prevention interventions in IRS.

Islamic narrative on healthy lifestyle as a delivery component: We learned that the life of the Prophet Muhammad, his physical fitness and his daily routine, as they are communicated in mosques to British Muslims and taught to South Asian children in madrassas, are strongly viewed by participants as perfect for role modelling. The Islamic narratives on His food habits, sleeping patterns and physical fitness are understood as an embodiment of living an ideal healthy life. Parents, Islamic leaders and both male and female workers of IRS unanimously expressed their strong belief that children can learn about avoiding sedentary behaviours and taking up healthy eating if stories about the Prophet Muhammad are recounted in interesting ways. Participants mentioned that the best way to encourage people to avoid eating junk food and/or adopt healthy dietary habits is to introduce food items in their kitchen that Prophet Muhammad used to eat.

Many participants, particularly the younger IRS workers (aged 20–40 years), expressed that some South Asian community members and Islamic leaders in the UK have a limited understanding of mosques; using them only for daily ritual worship. On the other hand, Prophet Muhammad's mosque was exemplary, including people from diverse backgrounds, encouraging social and community activities, such as sports, and opportunities for learning languages and community relations. We learned that young IRS workers were eager to expand the scope of activities in IRS beyond ritual worshiping and wanted to involve experts on healthy lifestyles visiting frequently and working in partnership with Islamic leaders.

Most participants agreed that Islamic narrative on healthy dietary practices, if disseminated by making it relevant with modern life, can influence people's food habits positively. Participants shared many examples from Islamic narrative in the form of the sayings of Prophet Muhammad, quotes by Islamic scholars, learning from Islamic practices, and stories for children that, in their view, can be narrated through IRS to encourage dietary behaviour change. Participants agreed that Quran and other Islamic narrative strongly advocate serving and consumption of modest and not extravagant food. Islamic leaders explained that the South Asian community should be educated that to inflict bodily harm is strictly forbidden in Islam and unhealthy dietary habits cause bodily harm in the long run. All participants also acknowledged that IRS can use Islamic narrative to promote physical activity and healthy sleeping habits. Islamic leaders said some children come to madrassa to memorise the Quran and they could encourage healthy sleeping habits. Islamic leaders also acknowledged that parents need to be educated not to bring young children to night prayers during summer in the mosque.

There were clear cultural influences on diet, physical activity and sleeping behaviours that South Asian parents and Islamic leaders viewed as problematic. These were considered targets for obesity prevention interventions.

Diet and cultural context: Research participants perceived a number of unhealthy habits are embedded in South Asian culture, including cooking multiple dishes for meals, over-eating, and unhealthy food choices. There are also cultural perceptions around fat being healthy in children, and many don't view childhood obesity as a problem. Parents commented that they receive negative remarks from relatives and community members if their children look slim. Islamic leaders acknowledged that there are no Muslim organisations raising awareness about healthy eating or maintaining a healthy body weight. IRS workers mentioned that they know families where women start making food a month before Ramadan. Mothers commented that family members and relatives become judgemental and young women are labelled as "untrained" if food is cooked and served using low salt, fat and sugar. Islamic leaders shared that families are pressurised to offer large amounts of food (like a feast) regularly in IRS.

Gender of a child and physical activity: Cultural taboos among South Asian communities around physical activity in girls, particularly after reaching puberty, was a frequently cited barrier hindering the scope of activity for South Asian girls. This was partly around the practicality of where they could change clothes, but also related to mixing of girls and boys in unsupervised spaces. The majority of participants said that they would prefer physical activity for girls in IRS to be conducted by female instructors. As boys and girls attend IRS in separate classes already, most of the research participants maintained that separate physical activity classes can be more acceptable to South Asian communities. However, some parents and Islamic leaders were receptive to the idea of boys and girls taking part in physical activity together in the same session. Islamic leaders maintained that there is diversity within South Asian communities in terms of how they view mixing of sexes in gatherings. IRS workers shared that more inspirational female sport role models are needed from British Muslim communities to encourage physical activity.

Sleep and sedentary patterns: Research participants indicated that the majority of South Asian Muslim families living in the UK don't maintain healthy sleeping patterns for children. Some parents informed us that children in South Asian families often sleep late resulting in drowsiness in school. In addition to unstructured sleeping patterns, excessive screen time was also discussed as an issue, leading to less time for physical activity. IRS workers related that younger children have recounted watching TV until 9–10 pm. Islamic leaders also acknowledged that parents often buy mobile devices for young children and without parental control, these keep them awake till late at night.

Practical barriers and facilitators around intervention delivery: Financial limitations and physical restraints of IRS were mentioned as potential barriers to management allowing health promotion activities. Participants explained that most of the mosques and madrassas are self-funded by attendees, through collections after Friday prayers and on other occasions. Teachers and workers within IRS usually work as unpaid volunteers. Therefore workers may resist taking on additional workload. The buildings used and physical infrastructure of IRS can also act as barriers. Research participants implied that delivery of interventions during week days would be a challenge because of limited time and would need to be delivered by complementing madrassa curriculum, over the weekend or by fixing a day during the week.

A potential lever was around collaboration between IRS, schools and the health service. Parents and Islamic leaders related previous instances when there were benefits from collaboration between IRS and other organisations. Such a partnership was considered convenient for parents and provides an obvious setting for children to engage in physical activity. Another example was related to collaboration with a CCG. Partnership with experts was also viewed positively. Suggestions put forward by participants as to how various components of an intervention could be practically enacted are detailed in Table 3.

4. Discussion

We found that Islamic leaders, IRS workers and Muslim parents were all supportive of the delivery of obesity prevention interventions for children by IRS staff or professionals collaborating with IRS. Prevalent behaviours rooted under cultural influences such as unhealthy dietary habits, large portion size, and limited physical activity were deemed contrary to Islamic teachings by all participants. South Asian Muslim parents and Islamic leaders in Bradford and Birmingham considered that reference to Quranic scripture and the example and life of the Prophet Muhammad (as a role model) offer opportunities for teaching children about healthy eating and physical activity. Although there were some reservations by few parents about the acceptability of delivering physical activity sessions, particularly for girls, IRS managers/workers, Islamic leaders and most of the parents were willing to run same-sex sessions. Other barriers were related to time, space and funding

constraints. Collaboration with external organisations such as schools and the health service presents potential opportunities.

Mainstream health promotion messages and interventions tend to be uniform and without considering the varying needs and responses of ethnic, religious or other sub-groups (Salway et al., 2020). The available data on health behaviours and health inequalities are mostly collected on measures like ethnicity or socio-economic status of marginalised groups. The intersectionality of ethnicity and religion and how the Islamic narrative on obesity prevention becomes instrumental in behaviour change for one or more ethnic groups has not been the part of public health recommendations and health promotion interventions. This study provides intersectional analysis on how various markers of identity like religion, ethnicity, and deprivation can be incorporated in designing complex health interventions (Liu et al., 2016) while targeting high risk groups like South Asian Muslims in the UK. The absence of Islamic narrative in available mainstream health promotion plans and polices targeting South Asian or other Muslim communities may limit the scope of successful delivery of any intervention. The assumptions behind efficiency of biomedical models of health interventions and the generic logic of 'public health' assuming high risk 'publics' as homogenous (Hinchliffe et al., 2018) can be problematic. Co-production of interventions between researchers, policy makers, and members of public, including religious leaders is more likely to address the high rates of childhood obesity among South Asian children in the UK.

School based interventions for health promotion have concluded that parental involvement is associated with better outcomes (Brown et al., 2019). Interventions using IRS which involve parents, children and community leaders therefore have the potential for greater effect. Islamic narrative on healthy living combined with healthy lifestyle recommendations by health authorities in the UK could influence behaviour among South Asian communities. Available evidence shows high reach through IRS where most of health promotion interventions are targeting physical activity already (Rai et al., 2019). Our findings support the view that IRS in the UK are progressive social organisations for inculcating obesity prevention behaviours among children, parents and community members. IRS are sites for practising religious beliefs and can act as sites for promotion of a healthy beliefs about diet, physical activity among high risk groups. By using IRS, evidence based recommendations on physical activity and healthy diet combined with Islamic narrative on healthy living could be disseminated effectively to a captive audience i.e. children, parents, families, and communities.

Our study highlights the potential for IRS to support healthy lifestyle behaviours rather than hinder them as suggested by a previous study which suggested that by attending IRS afterschool, South Asian Muslim parents might compromise their children joining an after-school physical activity club (Pallan et al., 2012). On the contrary, the evidence in our systematic mapping of IRS in the UK indicates that the infrastructure, organisation and delivery of physical activity for children by IRS staff are already occurring; with some IRS acting as afterschool physical activity clubs (Rai et al., 2019). Our fieldwork observations informed us that some IRS workers and managers were from the second, third or fourth generation of ethnic minority, with a dynamic view on IRS as local community hub providing different services more than ritual prayers and learning. Based on speculation about places of worship or IRS leaders, academics and researchers might be inclined to believe IRS teachers live with obesity; hence a 'fat priest' preaching how to prevent obesity might not be effective. On the other hand our participants, particularly males and females madrassa teachers, were young (mostly in 20s) with active and athletic bodies. Our study findings suggest academics working on health promotion within religious or cultural settings or targeting ethnic minorities should view staff and attendees in the settings as 'active participants' rather than 'passive recipients'. We advocate emphasising and identifying facilitators in cultures and religions for health promotion rather than focusing on barriers within them.

We learned that an intervention to promote obesity reduction in IRS should consider the caveats of each setting for example the physical space to perform physical activity in some smaller madrassas. An intervention targeting behaviour change for obesity prevention should relate more with the lived experience of British Muslims attending IRS. Adaptation of complex interventions and health promotion programmes according to the needs of local settings can increase intervention acceptability (Liu et al., 2012). Place-based groups in these settings, with involvement of local leaders and IRS staff in intervention delivery could result in high uptake of activities. A toolkit designed specifically for training IRS staff on delivery of intervention components and offering educational and informative material could prove to be effective. The contents of this toolkit needs to be co-produced and complement the madrassa curriculum using Islamic narrative on healthy living by combining it with obesity prevention recommendations by NHS, PHE and NICE guidelines.

5. Limitations

We collected data from parents, Islamic leaders, and managers/workers of IRS separately. Mixed focus group discussions of all categories research participants may have revealed more insights about the scope of health promotion intervention in IRS. However, this might have presented another challenge of social desirability and less open or frank conversations. Our findings are specific to IRS in areas of large South Asian populations in the UK, but may not reflect the views of South Asian populations in smaller areas. Most of our participants, particularly females, were highly educated reflecting the current educational trends among 3rd generation South Asians (parents of younger children) and greater access to this group.

6. Conclusion

Overall, Islamic leaders, IRS staff and Muslim parents thought that it would be possible to deliver childhood obesity prevention interventions through Islamic religious settings. The application of lessons from the life and physical fitness of Prophet Muhammad and Islamic narrative on healthy living could potential overcome South Asian cultural context where unhealthy practices around diet and physical activity are prevalent. We recommend that tailored, localised and targeted obesity prevention interventions for high risk groups such as South Asian children in the UK are developed and evaluated for uptake, retention, fidelity and effectiveness. The involvement, engagement and coproduction with high risk groups to prepare the content and design of interventions is imperative to ensure it is culturally sensitive. We recommend health promotion agencies and authorities look beyond traditional delivery settings and consider using IRS or other sites of cultural significance with captive audiences for the delivery of targeted health interventions. Health promotion messages can include cultural/religious narrative to support scientific evidence where appropriate and this may increase the relevance of the message to recipients.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.pmedr.2021.101387.

References

Adab, P., Pallan, M.J., Cade, J., Ekelund, U., Barrett, T., Daley, A., Deeks, J., Duda, J., Gill, P., Parry, J., Bhopal, R., Cheng, K.K., 2014. Preventing childhood obesity, phase

II feasibility study focusing on South Asians: BEACHeS. BMJ Open 4 (4), e004579. https://doi.org/10.1136/bmjopen-2013-004579.
Ahmed, F., King, R., 2012. Development and testing of a smoke-free homes intervention with Muslim faith leaders in Leeds, UK. Lancet 380, S22. https://doi.org/10.1016/S0140-6736(13)60378-5.
Ainsworth, H., Shah, S., Ahmed, F., Amos, A., Cameron, I., Fairhurst, C., King, R., Mir, G., Parrott, S., Sheikh, A., Torgerson, D., Thomson, H., Siddiqi, K., 2013. Muslim communities learning about second-hand smoke (MCLASS): study protocol for a pilot cluster randomised controlled trial. Trials 14 (1), 295. https://doi.org/10.1186/1745-6215-14-295.
Bhopal, R., Unwin, N., White, M., Yallop, J., Walker, L., Alberti, K.G.M.M., Harland, J., Patel, S., Ahmad, N., Turner, C., Watson, B., Kaur, D., Kulkarni, A., Laker, M., Tavridou, A., 1999. Heterogeneity of coronary heart disease risk factors in Indian, Pakistani, Bangladeshi, and European origin populations: Cross sectional study. Br. Med. J. 319 (7204), 215–220. https://doi.org/10.1136/bmj.319.7204.215.
Braun, V., & Clarke, V. (2012). Thematic analysis. In APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological. (Vol. 2, pp. 57–71). American Psychological Association. 10.1037/13620-004.
Brown, T., Moore, T.H., Hooper, L., Gao, Y., Zayegh, A., Ijaz, S., Elwenspoek, M., Foxen, S.C., Magee, L., O'Malley, C., Waters, E., Summerbell, C.D., 2019. Interventions for preventing obesity in children. Cochrane Database of Syst. Rev. 2019 (7) https://doi.org/10.1002/14651858.CD001871.pub4.
Brown, T., Smith, S., Bhopal, R., Kasim, A., Summerbell, C., 2015. Diet and physical activity interventions to prevent or treat obesity in south asian children and adults: A systematic review and meta-analysis. Int. J. Environ. Res. Public Health 12 (1), 566–594. https://doi.org/10.3390/ijerph120100566.
Dogra, S.A. Barber, S. (2019). Initial findings of the research on using Islamic Religious Settings to prevent obesity among South Asian children living in the UK. https://borninbradford.nhs.uk/research/grants/using-islamic-religious-settings-prevent-childhood-obesity-among-south-asian-children-uk/.
Dogra, S.A., 2019. Living a piety-led life beyond Muharram: becoming or being a South Asian Shia Muslim in the UK. Contemporary Islam 13 (3), 307–324. https://doi.org/10.1007/s11562-019-00437-8.
Duncan, M.J., Woodfield, L., Al-Nakeeb, Y., Nevill, A.M., 2008. Differences in Physical activity levels between white and south Asian children in the United Kingdom. Pediatric Exercise Science 20 (3), 285–291. https://doi.org/10.1123/pes.20.3.285.
Falconer, C.L., Park, M.H., Croker, H., Kessel, A.S., Saxena, S., Viner, R.M., Kinra, S., 2014. Can the relationship between ethnicity and obesity-related behaviours among school-aged children be explained by deprivation? A cross-sectional study. BMJ Open 4 (1), e003949. https://doi.org/10.1136/bmjopen-2013-003949.
Ghouri, N., Atcha, M., Sheikh, A., 2006. Influence of Islam on smoking among Muslims. BMJ 332 (7536), 291–294. https://doi.org/10.1136/bmj.332.7536.291.
Gilbert, P.A., Khokhar, S., 2008. Changing dietary habits of ethnic groups in Europe and implications for health. Nutr. Rev. 66 (4), 203–215. https://doi.org/10.1111/j.1753-4887.2008.00025.x.
Higgins, V., Nazroo, J., Brown, M., 2019. Pathways to ethnic differences in obesity: The role of migration, culture and socio-economic position in the UK. SSM – Popul. Health 7 (March), 100394. https://doi.org/10.1016/j.ssmph.2019.100394.
Hinchliffe, S., Jackson, M.A., Wyatt, K., Barlow, A.E., Barreto, M., Clare, L., Depledge, M. H., Durie, R., Fleming, L.E., Groom, N., Morrissey, K., Salisbury, L., Thomas, F., 2018. Healthy publics: enabling cultures and environments for health. Palgrave Commun. 4 (1), 1–10. https://doi.org/10.1057/s41599-018-0113-9.
Hornby-Turner, Y.C., Hampshire, K.R., Pollard, T.M., 2014. A comparison of physical activity and sedentary behaviour in 9–11 year old British Pakistani and White British girls: a mixed methods study. Int. J. Behav. Nutrit. Phys. Act. 11 (1), 74. https://doi.org/10.1186/1479-5868-11-74.
Law, C., Power, C., Graham, H., Merrick, D., 2007. Obesity and health inequalities. Obes. Rev. 8 (SUPPL. 1), 19–22. https://doi.org/10.1111/j.1467-789X.2007.00312.x.
Leung, G., Stanner, S., 2011. Diets of minority ethnic groups in the UK: Influence on chronic disease risk and implications for prevention. Nutrit. Bull. 36 (2), 161–198. https://doi.org/10.1111/j.1467-3010.2011.01889.x.
Liu, J.J., Davidson, E., Bhopal, R.S., White, M., Johnson, M.R.D., Netto, G., Deverill, M., Sheikh, A., 2012. Adapting health promotion interventions to meet the needs of ethnic minority groups: Mixed-methods evidence synthesis. Health Technol. Assess. 16 (44), 1–469. https://doi.org/10.3310/hta16440.
Liu, J.J., Davidson, E., Bhopal, R., White, M., Johnson, M., Netto, G., Sheikh, A., 2016. Adapting health promotion interventions for ethnic minority groups: a qualitative study. Health Promot. Int. 31 (2), 325–334. https://doi.org/10.1093/heapro/dau105.
Lobstein, T., Baur, L., Uauy, R., 2004. Obesity in children and young people: A crisis in public health. Obesity Rev. Suppl. 5 (s1), 4–85. https://doi.org/10.1111/obr.2004.5.issue-s110.1111/j.1467-789X.2004.00133.x.
Muslim Council of Britain. (2016). Muslims are highly ethnically diverse and not one ethnic ' block ' (Issue May).
Office of National Statistics. (2017). National Child Measurement Programme: England 2016/2017 school year.
Pallan, M., Parry, J., Adab, P., 2012. Contextual influences on the development of obesity in children: A case study of UK South Asian communities. Prev. Med. 54 (3–4), 205–211. https://doi.org/10.1016/j.ypmed.2012.01.018.
Pallan, M., Parry, J., Cheng, K.K., Adab, P., 2013. Development of a childhood obesity prevention programme with a focus on UK South Asian communities. Prev. Med. 57 (6), 948–954. https://doi.org/10.1016/j.ypmed.2013.08.025.
Rai, K.K., Dogra, S.A., Barber, S., Adab, P., Summerbell, C., Arshad, M., McEachan, R., Frew, E., Hewitt, C., Sheard, L., Siddiqi, K., Watson, J., Wright, J., 2019. A scoping review and systematic mapping of health promotion interventions associated with obesity in Islamic religious settings in the UK. Obes. Rev. 20 (9), 1231–1261. https://doi.org/10.1111/obr.v20.910.1111/obr.12874.
Rawlins, E., Baker, G., Maynard, M., Harding, S., 2013. Perceptions of healthy eating and physical activity in an ethnically diverse sample of young children and their parents: the DEAL prevention of obesity study. J. Hum. Nutr. Diet. 26 (2), 132–144. https://doi.org/10.1111/j.1365-277X.2012.01280.x.
Salway, S., Holman, D., Lee, C., McGowan, V., Ben-Shlomo, Y., Saxena, S., Nazroo, J., 2020. Transforming the health system for the UK's multiethnic population. BMJ 268 (February), m268. https://doi.org/10.1136/bmj.m268.
Sheikh, A., 2007. Should Muslims have faith based health services? BMJ 334 (7584), 75. https://doi.org/10.1136/bmj.39071.595301.94.
Taylor, N.J., Sahota, P., Sargent, J., Barber, S., Loach, J., Louch, G., Wright, J., 2013. Using intervention mapping to develop a culturally appropriate intervention to prevent childhood obesity: the HAPPY (Healthy and Active Parenting Programme for Early Years) study. Int. J. Behav. Nutrit. Phys. Act. 10 (1), 142. https://doi.org/10.1186/1479-5868-10-142.
Tomalin, E., Sadgrove, J., Summers, R., 2019. Health, faith and therapeutic landscapes: Places of worship as Black, Asian and Minority Ethnic (BAME) public health settings in the United Kingdom. Soc. Sci. Med. 230 (February), 57–65. https://doi.org/10.1016/j.socscimed.2019.03.006.
Waters, E., Bj, B., Brown, T., Kj, C., Gao, Y., Armstrong, R., & Prosser, L. (2011). Cd001871-2. 12. 10.1002/14651858.CD001871.pub3.www.cochranelibrary.com.
Whincup, P.H., Nightingale, C.M., Owen, C.G., Rudnicka, A.R., Gibb, I., McKay, C.M., Donin, A.S., Sattar, N., Alberti, K.G.M.M., Cook, D.G., Groop, L., 2010. Early emergence of ethnic differences in type 2 diabetes precursors in the UK: The child heart and health study in England (CHASE study). PLoS Med. 7 (4), e1000263. https://doi.org/10.1371/journal.pmed.1000263.