



Review Article

Barriers and facilitators of physical activity among adults and older adults from Black and Minority Ethnic groups in the UK: A systematic review of qualitative studies

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ABSTRACT

Older adults from Black and Minority Ethnic (BME) groups experience a relatively higher burden of physical inactivity compared with their counterparts from non-BME groups. Despite the increasing number of qualitative studies investigating the barriers and facilitators of physical activity among older adults from BME backgrounds in the UK, there is very limited review-level evidence. The aim of this review is to undertake a synthesis of existing qualitative studies, using a meta-ethnographic approach, to explore the barriers and opportunities for physical activity among adults and older adults from BME communities in the UK.

Studies conducted between January 2007 and July 2017 were eligible if they met the following criteria: employed any qualitative method; included participants identified as being BME, aged 50 and above, and living in the UK. In total, 1036 studies were identified from a structured search of six electronic databases combined with hand searching of reference bibliographies. Ten studies met the inclusion criteria for the review and were included.

Six key themes emerged from the data: awareness of the links between physical activity and health, interaction and engagement with health professionals, cultural expectations and social responsibilities, suitable environment for physical activity, religious fatalism and practical challenges. There was a substantial gap in research among Black African groups.

Interventions aimed at improving physical activity participation among older adults should be acceptable and accessible to minority groups. Further research is needed to investigate the barriers and facilitators of physical activity among older adults from African backgrounds.

1. Introduction

1.1. Importance of physical activity

The benefits of physical activity have been well established for over a century, yet a quarter of the global adult population is insufficiently active (WHO, 2018). Physical inactivity remains a global health issue responsible for nearly 5 million deaths worldwide (WHO, 2018; British Heart Foundation, 2017). Rated as the 4th leading risk factor for mortality, physical inactivity accounts for 10% of the global burden of disease from colon cancer, 10% of breast cancer, 7% of type II diabetes, and 6% of coronary heart disease (Lee et al., 2012).

Studies have shown that some older adults perceive physical activity to be only beneficial to the younger population (Burbank et al., 2002;

Schutzer and Graves, 2004); however there is compelling evidence that the requirement for physical activity does not end in later life (Bherer et al., 2013; Public Health Agency of Canada, 2011). Findings from longitudinal studies demonstrate that engaging in regular physical activity can improve the capability to perform daily tasks, (i.e. functional ability) (Blair and Wei, 2000; Cadore et al., 2013) and cognitive ability among older adults (Bherer et al., 2013). Physical activity has also been linked to the prevention of several risk factors and adverse conditions including osteoporosis (McKenna and Ludwig, 2008), falls, and fear of falling (Canning et al., 2015), hip fractures (Feskanich et al., 2014; Lai et al., 2013), and depression (Mammen and Faulkner, 2013). Several studies have reported associations between physical inactivity and loss of mobility and independence in later life (Franco et al., 2015; Horne, 2013; Takagi et al., 2015).

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1.2. Physical activity among adults and older adults

Promoting active living and independence among older adults is a public health priority. In the UK, initiatives such as the National Health Service (NHS) health checks for 40 to 74-year-olds exist to promote successful ageing (NHS Health Check Programme, 2016). Compared to 83% of 18 to 24-year-olds who meet the physical activity recommendations, only 55% of people aged 55–74 and only 30% of those aged 75+ meet the UK physical activity recommendation (British Heart Foundation, 2015). According to the UK physical activity guidelines, adults aged 19–64 are recommended to engage in at least 150 min of moderate intensity physical activity per week or 75 min of high-intensity physical activity per week (NHS Health Check Programme, 2016). The sharp decline in physical activity participation in later adult life has been attributed to a few factors, including lack of knowledge of the benefit of physical activity, lack of access to facilities for physical activity, lack of time and resources (Hartley and Yeowell, 2015; Victor, 2014). However, these factors vary considerably between and across different sub-groups of adults and older adults (Wolin et al., 2010).

1.3. BME communities and physical activity

Adults and older adults from socially disadvantaged groups experience a higher burden of physical inactivity (Roe et al., 2016). There is an association between low levels of physical activity among people from BME communities and a high level of health inequalities (Koshoedo et al., 2009). BME communities in the UK experience a considerably higher burden of disease than their non-BME counterparts (Stevenson and Rao, 2014). It is estimated that about 50% of people of South Asian, African, and Afro-Caribbean descent will develop diabetes by the age of 80 (Tillin et al., 2010). Compared to the majority population, South Asians have a 1.5 times higher risk of stroke (Agyemang et al., 2012; Khunti et al., 2013) while the risk is 2.5 fold greater among Africans and Afro-Caribbean (Agyemang et al., 2012; Wolfe et al., 2002).

BME groups have also reported low levels of engagement and use of green space (Burt et al., 2013; Comber et al., 2008). Reversing the trend of low physical activity participation among BME groups remains an important part of the UK government's effort to address the widespread health inequalities. Strategies such as 'Equally well' (Scottish Government, 2008), and 'At least five a week' (Department of Health, 2004) were designed to address some of these issues. These initiatives were developed to improve awareness of the benefits of physical activity and provide opportunities for people to engage in physical activity (Scottish Government, 2008; Department of Health, 2004). However, the success of existing policies in promoting physical activity participation among older adults from minority groups has not been evidenced by current physical activity trends. Knowledge of the barriers and facilitators of physical activity among adults and older adults from BME groups in the UK is fundamental to the design of interventions and policies to promote physical activity (Koshoedo et al., 2015).

Previous reviews have examined the barriers to participating in physical activity among older adults (Franco et al., 2015). However, there is limited evidence on the barriers among adults and older adults from BME groups. Wolin et al. (2010) reported substantial differences in cultural perceptions of physical activity and barriers to engaging in physical activity among racially diverse groups (Wolin et al., 2010). A Cochrane review of interventions aimed to improve sports participation in the general population reported a lack of evidence on the effectiveness of interventions implemented to promote healthy physical activity among ethnically diverse groups (Priest et al., 2008).

Koshoedo and colleagues conducted a narrative review in 2009 to investigate the barriers to engaging BME groups in physical activity in the UK (Koshoedo et al., 2009). The authors reported that there was insufficient evidence, and they linked this to the paucity of evidence in the field and some limitations of their search strategy. Also, the review

by Koshoedo and colleagues did not include an assessment of the quality of the studies. A follow up qualitative evidence synthesis by Koshoedo and colleagues in 2015 investigated the complex interplay of barriers to physical activity among people from BME groups aged 16 to 65 years in the UK (Koshoedo et al., 2015). The authors identified issues around perceptions, cultural expectation, personal barriers and access to facilities as barriers to physical activity. However, this review was not tailored to explore the views of adults and older adults. Consequently, the authors of the review recommended the need for future research to consider sub-analysis by age (Koshoedo et al., 2015).

There is no known systematic review investigating the barriers and opportunities for physical activity participation among adults and older adults from BME backgrounds in the UK. A thorough assessment of existing literature is needed to identify and collate credible evidence on the experience, barriers and facilitators of physical activity among adults and older adults from BME groups in the UK. This kind of evidence is important, not only because the BME population in the UK is growing at an ever increasing rate, but also because BME groups in the UK experience higher levels of health inequalities and are often under-researched. Therefore, this review aims to investigate the barriers and opportunities for physical activity among adults and older adults aged 50 and above from BME backgrounds in the UK. This systematic review differentiates itself from existing reviews by not only examining the barriers but also exploring the opportunities for improving physical activity across a defined age-band of the UK BME population.

1.4. Review question(s)

What are the barriers and facilitators of physical activity participation among adults and older adults (aged 50 and above) from BME backgrounds in the UK?

2. Methods

This study is nested in an interpretivist paradigm of meta-ethnography. Interpretivism is a branch of epistemology that seeks to understand reality through the subjective meaning (Atkins et al., 2008). Meta-ethnography adopts an interpretivist's world-view by comparing and analysing qualitative data, leading to the construction of new interpretations (Atkins et al., 2008). Originally developed by Noblit and Hare in 1988 to synthesize ethnographic studies, this method has been widely adopted in synthesis of various forms of qualitative research (Noblit and Hare, 1988). Meta-ethnography enables the generation of powerful interpretative analysis of a phenomenon that extends beyond an individual account and reveals analogies between various accounts while preserving the meaning of the accounts (Noblit and Hare, 1988; Bearman and Dawson, 2013). Meta-ethnography is widely applied to produce new conceptual understanding of complex public health issues (Campbell et al., 2012). Noblit and Hare proposed a framework comprising of seven important stages to conduct meta-ethnography (Noblit and Hare, 1988). This framework has been criticised for failing to provide clear guidance on the assessment of rigour and quality appraisal (Fingeld-Connott and Johnson, 2013). However, there are measures and tools for assessing the quality of qualitative studies which can be applied to meta-ethnographic studies (Toye et al., 2013). Thus, this review will adopt the framework suggested by Noblit and Hare, and will include an assessment of rigour to supplement the framework.

2.1. Phase 1: getting started

This stage entails identifying an area of intellectual interest to be informed by qualitative research. A key characteristic of this phase is having a well-defined research question (Pope et al., 2007). The research idea for this study emerged from the need to review and understand the barriers and opportunities for involving BME groups aged 50 and above in physical activity.

Table 1
Inclusion and exclusion criteria.

Concept	Inclusion criteria	Exclusion criteria
Population	Studies including community-living BME groups aged 50 and above.	White minority groups. African-Americans.
Exposure	Engagement in any form of physical activity or exercise (walking, cycling, and any other form of physical activity)	
Outcomes	Experiences, barriers, facilitators of physical activity	Studies with no evidence on the barriers and facilitators of physical activity
Studies	Studies with qualitative methods such as thematic analysis, case-study, ethnography, grounded theory, narrative, focus groups and interviews. Studies published between January 2007 and July 2017	Systematic literature reviews Quantitative studies
Location	Studies conducted in the UK	Studies conducted outside the UK

This study employed an adapted version of the Population, Exposure, Outcome and Study design theoretical framework (Richardson et al., 1995) to develop the research question and search strategy (Table 1).

2.2. Phase 2: deciding what is relevant to initial interest

Phase 2 involves providing scope for the review. This entails justifying the studies that should be included/excluded from the review based on their relevance. Meta-ethnography unlike other forms of review places important emphasis on the relevance of included studies and hence has a more focused scope (Britten et al., 2002).

To be selected for inclusion in this research, studies were required to meet the inclusion criteria in Table 1 below.

A structured search for published literature was conducted by JI on 6 electronic databases (MEDLINE, PsychINFO, Cumulative Index to Nursing & Allied Health Literature, Applied Social Sciences Index and Abstracts, Cochrane Database of Systematic Reviews, Allied and Complementary Medicine). Hand searching of reference list of publications was performed in addition to a search conducted on Google Scholar to identify grey literature.

3. Data extraction and quality assessment

The characteristics of respondents and study details from each study included in the review were extracted by JI to create a comprehensive summary table. A second reviewer (PP) extracted data from a sample of papers to assess consistency. Where possible, the views expressed by the respondents interviewed in the original studies (1st order constructs) were differentiated from the interpretations made by the authors (2nd order constructs). An additional column was created to include any third-order interpretation of findings. This enabled the identification of similar concepts used to develop a Reciprocal Translational Analysis (RTA) (Noblit and Hare, 1988). RTA involves putting together the key themes from each study and translating the themes into the context of the other studies (Noblit and Hare, 1988). The Critical Appraisal Skills Programme (CASP) toolkit for qualitative studies was used to rate the methodological quality of each included study (Critical Appraisal Skills Programme (CASP), 2017). Each review was rated from 0 to 10, with those scoring 5 or below classified as low quality, scores between 6 and 8 were categorised as moderate while studies scoring between 9 and 10 were deemed as being of high quality. Findings from all studies were included in the results.

3.1. Phase 3: reading the studies

Noblit and Hare recommend the frequent reading of studies combined with the identification of the key concepts emerging from the data (Noblit and Hare, 1988). The studies included in this review were read multiple times to be well-acquainted with the interpretative concepts. Moreover, the process of data extraction further elucidated the

key concepts emerging from the studies.

A data extraction form was created on Microsoft Excel to extract relevant data from the studies. Details including the name of the author (s), year of publication, aim(s) and location of study, demographics of participants, exposure of interest, methods of data collection, results and limitations of the research were all extracted for each study.

4. Results

Our search database returned 1036 studies, including 5 additional studies identified through hand searching of reference lists and review of stakeholder documents. A total of 718 studies were screened by title and abstract after duplicates were removed. On applying the inclusion and exclusion criteria, a selection of 19 studies was considered eligible for full-text screening. Following the full-text screening, nine studies were further excluded for failing to meet one or more of the inclusion criteria. Further details are included in Fig. 1.

A final selection of ten studies was included in the review. These studies were published between 2007 and 2015. Most of the studies used semi-structured interviews (n = 6), two studies combined semi-structured interviews with focus group, one study conducted an in-depth interview, and another study used only focus group discussion for data collection. None of the studies was deemed to be of high quality; however, nine of them were of moderate quality, and only one study was deemed to be of low quality (Table 2).

Five studies investigated knowledge and attitudes towards prevention and management of diseases such as type II diabetes (Grace et al., 2008; Keval, 2009; Sriskantharajah and Kai, 2007), coronary heart disease (Darr et al., 2008), osteoporosis (McKenna and Ludwig, 2008). Two studies investigated the attitudes and beliefs towards physical activity, ageing, and wellbeing (Victor, 2014; Khanam and Costarelli, 2008). Two other studies investigated the effectiveness of physical activity interventions and factors influencing adherence to physical activity (Hartley and Yeowell, 2015; Snape and Binks, 2008). One study explored the role of health professionals in promoting exercise and physical activity (McKenna and Ludwig, 2008). In terms of ethnicity, nine out of ten studies included South Asian older adults and older adults, mainly Bangladeshi, Pakistani, and Indians. One study included Afro-Caribbean populations (Victor, 2014). Three studies investigated physical activity among minority ethnic women (McKenna and Ludwig, 2008; Darr et al., 2008; Khanam and Costarelli, 2008). None of the studies explored the barriers and opportunities among adults and older adults from Black/African communities. Further characteristics of included studies are described in Table 2 below.

4.1. Phase 4: determining how studies are related

In identifying the relationship between studies, Noblit and Hare propose that studies must be 'put together' by creating a list of key concepts for each study and comparing this across all studies (Noblit and Hare, 1988). The tabulated data extraction sheet enabled the

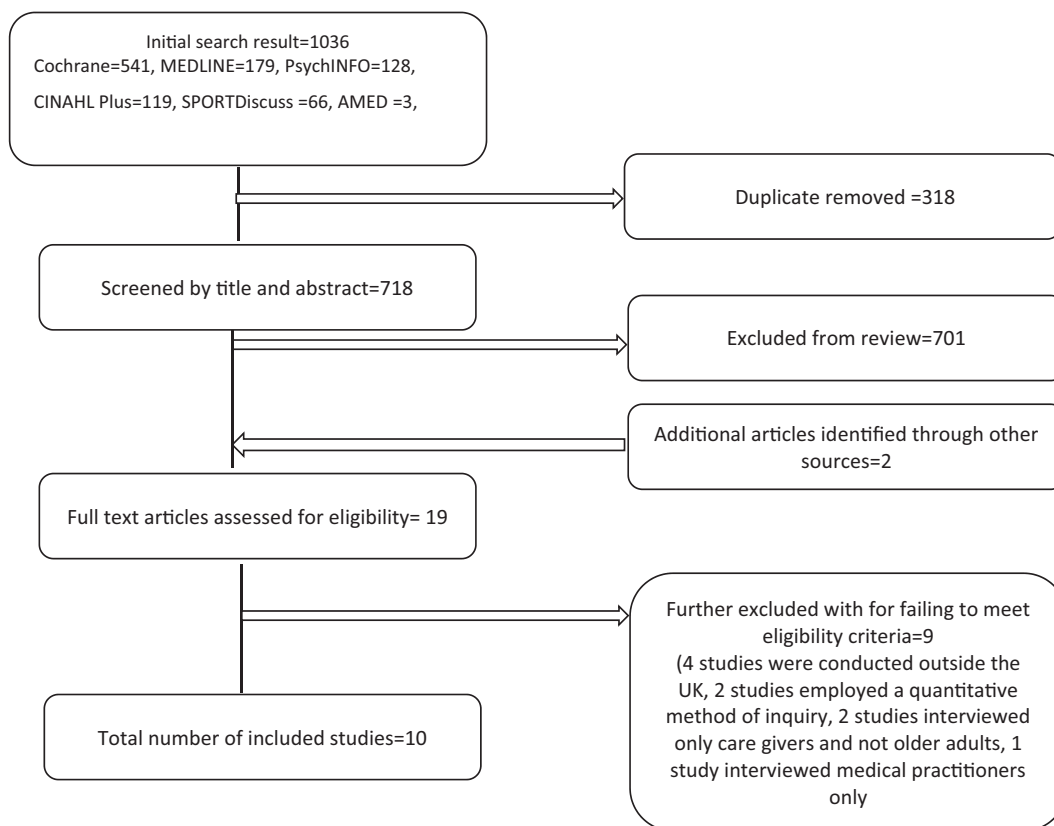


Fig. 1. Flow chart of meta-ethnography selection process.

identification of second-order concepts from each study. This was then compiled to create a summary table of second-order concepts (Table 3).

4.2. Phase 5: translating studies into one another

The process of constant comparison of findings requires a clear distinction between first, second and third-order constructs. First-order constructs refer to the original view of the participants in the included studies while second-order constructs are interpretations of first-order narratives by the original authors of the study. Third-order constructs refers to the interpretation of the reviewer (Malpass et al., 2009; Hilber et al., 2012). Second-order constructs are essentially the building blocks for synthesis, leading to the development of third order constructs (Britten et al., 2002). The process of completing stage 3 and 4 showed that the findings were mostly reciprocal (Table 3).

4.3. Phase 6: synthesizing translations

Synthesis of studies in meta-ethnography involves a constant comparison of translations from each study to determine the overarching concepts by matching, merging or adapting concepts from other studies (Noblit and Hare, 1988; Pope et al., 2007).

4.4. Phase 7: expressing the synthesis

Six key themes emerged from the synthesis of the first and second order construct.

I. Awareness of links between physical activity and health

Seven studies discussed this theme (Hartley and Yeowell, 2015; Victor, 2014; Grace et al., 2008; Keval, 2009; Sriskantharajah and Kai, 2007; Khanam and Costarelli, 2008; Horne et al., 2010); two of these

studies reported that the link between physical activity and health was well understood by many of the respondents (Grace et al., 2008; Sriskantharajah and Kai, 2007). The benefits of physical activity identified by respondents include improved general wellbeing (Hartley and Yeowell, 2015), weight loss (Grace et al., 2008; Sriskantharajah and Kai, 2007), improved mental health (Hartley and Yeowell, 2015; Grace et al., 2008), prevention and management of chronic conditions such as type II diabetes (Keval, 2009; Sriskantharajah and Kai, 2007) (Table 4).

One of the participants in the study by Sriskantharajah said:

“I only go for the exercise to lose the weight and make my body better....”

Some South Asian respondents with type II diabetes identified links between lack of physical activity and the development of type II diabetes (Keval, 2009). Some of the respondents over 60 years reported that they engaged in physical activity to maintain mobility and independence. People with a family history of chronic conditions were self-motivated to take up physical activity as a means to limit the progression of their condition (Sriskantharajah and Kai, 2007).

Out of the several reasons identified for engaging in physical activity, the most commonly reported reason was to lose weight (Grace et al., 2008; Sriskantharajah and Kai, 2007). However, not all studies identified weight loss as being appropriate. Some South Asian Muslim women regarded physical activity negatively due to perceived sexual connotations from making oneself more attractive (Snape and Binks, 2008). Khanam and Costarelli reported that all participants despite being overweight or obese, engaged in physical activity only when referred by their GP as an alternative or additional treatment for their health symptoms (Khanam and Costarelli, 2008) (Table 4).

Moreover, some male respondents felt that they get enough physical activity from working for long hours (as a taxi driver or shop owner) (Victor, 2014). This view was also shared by women who felt that active living was invariably linked to their identity as ‘homemakers’ (Sriskantharajah and Kai, 2007) and that physical activity beyond daily

Table 2
Characteristics of included studies.

Author, year	Location	Study design	Study objectives	Population		Age, gender	Sample size	Intervention/exposure	Data collection	CASP score
				Ethnicity	Ethnicity					
Darr et al., 2008	West Yorkshire, UK	Qualitative study-in-depth semi-structured interviews	To examine and compare the illness beliefs of South Asian and European patients with coronary heart diseases (CHD) about causal attributions and lifestyle change 1 year after hospital admission	White and South Asian	White and South Asian	Age range = 40 to 83 years.	36 males and 29 females from Pakistani-Muslim (20), Indian Sikh (12), Indian Hindu (13) and European (20)origin	Beliefs about causal attributions of CHD and lifestyle changes	Semi structured interviews	7
Grace et al., 2008	London, UK	Qualitative study	To investigate lay beliefs and attitudes, religious teachings and professional perceptions regarding type II diabetes prevention in the Bangladeshi community	South Asian-Bangladeshi	South Asian-Bangladeshi	First and second generation Bangladeshi adults, religious leaders and Islamic scholars.	<u>Lay people</u> 37 men and 43 women <u>Islamic scholars and religious leaders</u> 14 men and 15 women <u>Health professionals</u> Mostly practice nurses, diabetes specialist nurses, dietitians and health advocates. 19 female and 1 male <u>Individual interview</u>	Attitudes, values and belief of lay people towards prevention of type II diabetes Opportunities for diabetes prevention through Islamic teaching and practice-Islamic scholars and religious leaders Attitudes and experiences of health professionals working with the Bangladeshi community	Focus group discussion and semi-structured interviews	8
Hartley and Yeowell, 2015	North West England	Qualitative-exploratory approach using focus group	To gain an understanding of what influences long-term adherence to community physical activity groups	African Caribbean, and general population	African Caribbean, and general population	Participants were aged 65 to 90 years.	2 males and 6 females 18 participants-6 Afro Caribbean and 12 white	Perception of adherence to community exercise groups	60 to 90 min focus group discussions	8
Horne et al., 2010	North West England	Qualitative-Ethnographic approach	To explore the influence of primary health care professionals in increasing exercise and physical activity among 60–70 year old white and South Asian community dwellers	White and South Asians	White and South Asians	Participants were aged 60 to 70 years.	127 older adults (46 South Asian and 81 whites)	Role of primary health professionals in increasing physical activity	15 focus group last between 1 and 2 h and 40 in-depth interview lasting between 30 and 90 min	7
Keval, 2009	Midlands and South East England	Qualitative study-grounded theory	To explore the experience of diabetes among South Asian Hindu Gujarati speaking people	South Asian	South Asian	Age range = 40 to 88 years	8 women and 10 men. 17 of them had type II diabetes and 1 person had type 1	Experience of diabetes and management	40 to 100 min semi structured interviews	8
Khanam and Costarelli, 2008	East London, UK	Survey based on interview guided questionnaire	To investigate the attitudes and beliefs held by UK Bangladeshi women on health and exercise and explore possible ways of increasing levels of physical activity in this group	Bangladeshi	Bangladeshi	Women aged 30 to 60 years referred to a gym by their GP to improve their health following diagnosis of type II diabetes, obesity, high blood pressure and metabolic syndrome (40% were obese and the remaining 60% were overweight)	25 Muslim first generation Bangladeshi females	Attitude and belief towards health and exercise	Interview guided questionnaire administered by a Muslim Bangladeshi female interviewer	8
McKenna and Ludwig, 2008	South East England	Qualitative study	To compare the experiences of osteoporotic Caucasian and South Asian women from South East England	Caucasian and South Asian women	Caucasian and South Asian women	Participants were aged 43 to 82 years diagnosed with osteoporosis for 8 months to 40 years	21 women	Experience of osteoporosis	20–120 min of semi-structured interviews	7
Snape and Binks, 2008	Blackburn, UK	Case study	An evaluation of a health based intervention to increase participation in physical activity within a	South Asian Muslim women	South Asian Muslim women	Women aged 50 and above	Two sets of focus group discussions were conducted for Women	Uptake of physical activity programmes such as tai chi aerobics, yoga, men and women circuit training	Semi structured interviews and focus group	4

(continued on next page)

Table 2 (continued)

Author, year	Location	Study design	Study objectives	Population	Age, gender	Sample size	Intervention/exposure	Data collection	CASP score
Srisikantharajah and Kai, 2007	Nottingham, UK	Exploratory qualitative study	South Asian community in Blackburn To explore influences on and attitudes towards physical activity among South Asian women with CHD and diabetes to inform secondary prevention practices	Ethnicity South Asian- Indian, Pakistani, Bangladeshi, Sri-Lanka, East African Asian	Mean age of women = 52 years over 80% of them were between 41 and 70 years	aged 50 and above (N = 15) 15 women with CHD or non-insulin dependent diabetes from 3 general practice. 7/15 women were Muslim, 3 were Sikh and 5 were Hindus. 11/14 women had acquired some form of formal education	developed in the Blackburn North Healthy Living Centre - a local community Experience of physical activity and in relation to illness (CHD and diabetes)	1 to 2 h semi structured interviews	7
Victor, 2014	England	Qualitative-interview	To explore how Bangladeshi and Pakistani older adults talk about physical activity in their daily lives	Bangladeshi and Pakistani older adults	Participants were aged 50 and above. Participants had lived in the UK for a mean period of 20 years	Interviews were conducted with a total of 109 participants (59 Pakistani and 50 Bangladeshi)	Meaning of physical activity in daily lives	Interviews of between 25 min and 1 h	6

work was neglect of their duties (Srisikantharajah and Kai, 2007; Snape and Binks, 2008).

II. Religion and religious fatalism

Religion and religious norms were perceived as both a barrier and potential facilitator; three studies identified this theme (Grace et al., 2008; Darr et al., 2008; Khanam and Costarelli, 2008). Islamic leaders and some South Asian Muslim participants identified a resonance between Islamic teachings and the need to lead a physically active lifestyle (Grace et al., 2008). Walking was generally perceived to be an appropriate form of physical activity as it did not contradict Islamic teachings and values. However, some respondents held the view that observing the five times daily prayer of Muslims, Namaz, was adequate exercise.

Religious fatalism was however identified as a barrier to healthy living among some of the older Muslim women. For example, some of the Pakistani Muslim respondents with coronary heart disease held fatalistic religious beliefs about their condition (Darr et al., 2008; Khanam and Costarelli, 2008).

One of the participants in the study by Daar et al. (2008) said:

“It (illness) comes from Allah (God)...whatever’s going to happen,Allah will do whatever he wants to do....”

(Darr et al., 2008)

This view was held by some of the first-generation South Asian respondents in two of the included studies (Grace et al., 2008; Darr et al., 2008). Religious leaders were, however, keen to educate lay respondents that such views were a misinterpretation of Islamic teachings (Grace et al., 2008).

III. Interaction and engagement with health professionals

The influence of health professionals on decisions regarding physical activity featured in six of the included studies (McKenna and Ludwig, 2008; Victor, 2014; Grace et al., 2008; Srisikantharajah and Kai, 2007; Khanam and Costarelli, 2008; Horne, 2010). Although health professionals were identified as a key source of information, respondents included in this review reported that the information received from health professionals were inadequate and not clearly communicated (McKenna and Ludwig, 2008; Grace et al., 2008; Srisikantharajah and Kai, 2007). Patients with coronary heart disease or diabetes were simply told by their GP ‘to just do more exercise’ (Grace et al., 2008; Darr et al., 2008). The lack of information on recommended levels of physical activity deterred many older adults from outdoor walking as a result of not knowing the appropriate distance to cover (Darr et al., 2008). Anxiety for exceeding the ‘body’s limit’ of physical activity was fuelled by a lack of knowledge on what sort of activity was appropriate and safe (Srisikantharajah and Kai, 2007; Horne et al., 2010).

One of the participants in the study by Horne et al. (2010) said that

“There is encouragement if you had a problem to get over it but there is no encouragement if you haven’t had a problem ...”

(Horne et al., 2010)

A study involving older South Asian women with osteoporosis reported a reluctance of general practitioners (GPs) to discuss physical activity and that discussion during consultations were centred on medication use (McKenna and Ludwig, 2008). The women felt that GPs were not confident to discuss and recommend physical activity in relation to their illness. Health professionals interviewed alongside older adults from the Bangladeshi community identified that their unwillingness to discuss lifestyle-related issues was partly due to their own perception of religious fatalism among BME communities and their limited cultural and religious understanding (Grace et al., 2008).

Table 3
Summary of second order concepts from studies included in review.

Concepts	Dair et al., 2008	Grace et al., 2008	Hartley and Yeowell, 2015	Home et al., 2010	Keval, 2009	Khanam and Costarelli, 2008	McKenma and Ludwig, 2008	Shape and Binks, 2008	Sriskanharajah and Kai, 2007	Victor, 2014
Barriers										
Fatalism	✓	✓				✓		✓	✓	
Social roles and expectations of women	✓	✓				✓		✓	✓	
Inadequate advice and support from health professionals	✓	✓		✓						
Lack of support from members of social circle	✓	✓				✓		✓		
Cultural inappropriateness of exercise due to modesty concerns	✓	✓				✓				
Inadequate facilities/space for exercise	✓	✓	✓				✓		✓	
Perceived harm threshold of physical activity	✓	✓		✓			✓		✓	
Language barrier	✓	✓					✓		✓	
Lifestyle changes and sedentary living					✓	✓				
Structural and practical constraints e.g. time, money etc.	✓	✓	✓		✓	✓		✓		✓
Being a minority			✓							
Exercise seen as part of job									✓	
Presence of other comorbidities	✓				✓			✓	✓	
Cultural connotation of western sports as alien	✓	✓			✓			✓	✓	
Discomfort with exercising in public	✓	✓				✓		✓	✓	
Poor health literacy		✓				✓				
Association of obesity with fertility						✓				
Facilitators										
Awareness of the benefit of physical activity	✓	✓			✓	✓		✓	✓	
Opportunity to improve health and wellbeing	✓	✓	✓					✓	✓	
Opportunity for social interaction and support			✓							
Support from health professionals						✓				
Provision of suitable space for physical activity	✓	✓		✓		✓		✓	✓	
Having a range of culturally-sanctioned activities			✓		✓	✓		✓		
Consultation with local community in design and management of exercise centres			✓		✓	✓		✓		
Advise and support from religious leaders	✓	✓								
Advise and support from family, peers and others				✓		✓				
Financial incentive										
Ensuring privacy and maintaining security	✓	✓	✓					✓		✓

Table 4
Synthesis: first, second and third order construct.

First-order construct	Second-order construct	Third-order construct	Theme
<p>“I only go for the exercise to lose the weight and make my body better. Lose the weight and make me good looking, you know”.</p> <p>“I said to myself, I’m not going to be physically incapacitated ... I want to, as long as I live, I want to be independent and fit ... and don’t want to be dependent physically on anybody. I hate that”.</p> <p>(Sriskantharajah and Kai, 2007)</p>	<p>Weight loss, maintaining independence and socializing perceived as main benefit of physical activity; Some understanding of the benefit of exercise to improve and limit illness; (Sriskantharajah and Kai, 2007)</p> <p>Preventative health promotion (Horne et al., 2010)</p> <p>Lay understanding of diabetes; Living a healthy life; Responsibility for diabetes prevention (Grace et al., 2008)</p> <p>Health literacy (Khanam and Costarelli, 2008)</p> <p>Links between physical activity and health (Keval, 2009)</p> <p>Positive health and wellbeing (Hartley and Yeowell, 2015)</p> <p>Perceived health benefit (Victor, 2014)</p>	<p>Understanding of the health and wellbeing benefits of physical activity can increase motivation to engage in exercise</p>	<p>Awareness of links between physical activity and health</p>
<p>“It (illness) comes from Allah (God)...whatever’s going to happen, but then you should still be careful shouldn’t you....Allah will do whatever he wants to do...” (Darr et al., 2008)</p> <p>“He [health professional] just says ... just do more exercise that’s it ... the doctors and the health advisors they don’t give you the proper information. They don’t push you ... it would help ... if [we] had people telling [us] how to do exercise” (Sriskantharajah and Kai, 2007)</p> <p>“There is encouragement if you had a problem to get over it but there is no encouragement if you haven’t had a problem not to get a problem” (Horne et al., 2010)</p>	<p>Role of fate (Darr et al., 2008)</p> <p>Fatalism (Grace et al., 2008)</p> <p>Being overweight/obese is not a problem (Khanam and Costarelli, 2008)</p> <p>Insufficient guidance from health professionals about suitable activity; Perceived harm threshold limits activity (Sriskantharajah and Kai, 2007)</p> <p>Women sensed doctors uncertainty, physical activity illustrates doctors uncertainty about women’s osteoporosis experience (McKenna and Ludwig, 2008)</p> <p>Advice and support- physician advice and support; information needs; exercise on prescription (Horne et al., 2010)</p> <p>Recommended walking distance (Darr et al., 2008)</p> <p>Support from health professionals (Victor, 2014)</p> <p>Fatalism (Grace et al., 2008)</p>	<p>The notion that participants have been pre-destined to experience disease or that diseases should be accepted as one’s fate constituted a barrier to healthy lifestyle</p> <p>Respondents were disappointed by the lack of support from health professionals and the inadequacy of information received. Health professionals on the other hand were cautious of crossing cultural and religious red-tapes especially in relation to fatalism.</p> <p>The relationship between health professionals and older adults was also affected by language barriers</p>	<p>Religion and religious fatalism</p> <p>Interaction and engagement with health professionals</p>
<p>“They will say look how funny he looks, the old man has already married off his children and now he is riding bicycles and running. Even though some people have a desire to either swim or ride a bicycle they abort the idea due to fear of public scandal” (Grace et al., 2008)</p> <p>“It wasn’t my people...when I looked around all I could see is white faces, I was the only black one” (Hartley and Yeowell, 2015)</p> <p>“We are constantly on our feet cleaning after our children and keeping the house presentable” (Khanam and Costarelli, 2008)</p>	<p>Exercise beyond daily work seen as selfish (Sriskantharajah and Kai, 2007)</p> <p>Support from others (Horne et al., 2010)</p> <p>Social roles and expectations (Grace et al., 2008)</p> <p>Lack of motivation from family (Khanam and Costarelli, 2008)</p> <p>Having no one to accompany them (Darr et al., 2008)</p> <p>Opportunity for culturally-sanctioned exercise (Keval, 2009)</p> <p>Minority group (Hartley and Yeowell, 2015)</p> <p>Allowing women to wear everyday dress (Snape and Binks, 2008)</p> <p>Informal norms and sanctions (Victor, 2014)</p> <p>Discomfort with exercising in the public (Sriskantharajah and Kai, 2007)</p>	<p>Women identified their primary duty as being home-keepers and received very little support to undertake extra activities such as exercise</p> <p>Some forms of exercise posed a threat to modesty of women</p> <p>Both males and females perceived that exercise in the public (especially when performed alone) is culturally inappropriate</p>	<p>Cultural expectations and social responsibilities</p>
<p>“Some women like, but myself I feel shame. I don’t want to go swimming because man’s sitting down watching women ..., I don’t like it at all” (Sriskantharajah and Kai, 2007)</p>	<p>Dislike for gym (Khanam and Costarelli, 2008)</p> <p>Access; variety of exercises (Hartley and Yeowell, 2015)</p> <p>Perceived cultural homogeneity between the centre and neighbourhood; Consultation with the local community on the design of provision; cultural connotation of sports and sporting context (Snape and Binks, 2008)</p> <p>Requirement for gender specific spaces (Victor, 2014)</p> <p>Variability in weather conditions; Lack of time (Darr et al., 2008)</p> <p>Constrained by not being able to speak English (Sriskantharajah and Kai, 2007)</p> <p>Inability to speak English (Khanam and Costarelli, 2008)</p> <p>Structural and practical challenges to healthy lifestyles; Health and English literacy (Grace et al., 2008)</p> <p>Exercise seen as part of job (Victor, 2014)</p>	<p>The need for safe and suitable place for exercise was re-echoed across both genders</p> <p>Not being able to communicate in English was a barrier to participating in any form of formal exercise class. This barrier also often affected relationship with health professionals</p> <p>Examples of other practical challenges include poor weather and lack of time</p>	<p>Suitable environment for physical activity</p> <p>Practical challenges</p>

IV. Cultural expectations and social responsibilities

Nine studies examined this theme (Hartley and Yeowell, 2015; Victor, 2014; Grace et al., 2008; Keval, 2009; Sriskantharajah and Kai, 2007; Darr et al., 2008; Khanam and Costarelli, 2008; Snape and Binks, 2008; Horne et al., 2010) with some of these studies reporting that prioritisation of family duties was seen as an integral responsibility of a woman and part of her identity. This view was unequivocally shared by both men and women of South Asian communities (Grace et al., 2008; Sriskantharajah and Kai, 2007; Snape and Binks, 2008). Studies included in this review identified that South Asian women are expected to stay at home, dress modestly and prioritise family duties over independence and social freedom. Physical activity was thus regarded as an obstacle to fulfilling this duty (Table 4). Women who engaged in exercise beyond housework were at risk of being labelled “a ‘bad’ housewife or mother” (Sriskantharajah and Kai, 2007). One of the included studies identified that older South Asian women perceived exercise as damaging to their personal reputation and family honour (Snape and Binks, 2008).

Mixed-sex physical activity or exercise was considered highly inappropriate as respondents noted that it compromised their values of modesty. Although some South Asian women indicated that female-only activities are acceptable, others were concerned that cameras in exercise facilities and the presence of male workers within the facilities were a hindrance to modesty (Sriskantharajah and Kai, 2007; Snape and Binks, 2008). This was particularly the case with swimming where women identified that even female only sessions do not necessarily preserve modesty, given the presence of cameras or male life-guards (Snape and Binks, 2008).

While discussing examples of culturally-sanctioned activities, some Bangladeshi women identified that slow walking was generally acceptable while brisk walking and running in the public are not culturally appropriate for Muslim women (Grace et al., 2008; Khanam and Costarelli, 2008). Sporting activities performed with special clothing at the gymnasium was identified as deviant from what is culturally acceptable and was likely to be met with social sanctions such as gossip and mockery (Grace et al., 2008). Some examples of culturally-sanctioned exercise identified by some South Asian Hindus include: attending classes held at temples or community centres, accessing daily yoga sessions online, or broadcast from India via satellite TV (Keval, 2009).

V. Practical challenges

Practical challenges, including lack of time, were widely cited as a key constraint to engaging in physical activity in five studies (Victor, 2014; Grace et al., 2008; Sriskantharajah and Kai, 2007; Darr et al., 2008; Khanam and Costarelli, 2008). The responsibility of taking care of the home and looking after the children did not afford women spare time for physical activity (Darr et al., 2008; Khanam and Costarelli, 2008). A similar view was shared by male Pakistani and Bangladeshi adults aged 50 and above, who affirmed that working seven days a week did not afford them much time to engage in any form of physical activity (Victor, 2014).

Language barriers were also identified as a key concern for women, especially those participating in formal physical activity sessions. The inability to communicate in English was perceived as a major deterrent from wanting to attend physical activity classes or walking in public areas (Grace et al., 2008; Sriskantharajah and Kai, 2007). Lack of confidence was identified as a consequence of poor English literacy. Some South Asian Muslim women aged 50 and above who were involved in an intervention to increase community physical activity participation reported that having gym instructors and exercise facility staff from the local community, who could communicate in their local language was a reason for engaging with the intervention (Snape and Binks, 2008) (Table 4).

Financial constraints were identified as another reason for not engaging in physical activity. The high cost of attending formal physical activity sessions was a barrier to attendance (Hartley and Yeowell, 2015; Grace et al., 2008). Providing free exercise classes within walkable distance was however identified as an incentive to attending (Hartley and Yeowell, 2015).

Other factors such as climate, lack of child care facilities were identified as barriers to physical activity participation. These factors were inter-related; lack of money was associated with the inability to find affordable childcare which meant that mothers would stay at home to look after their young ones.

VI. Suitable environment for physical activity

A lack of suitable space for culturally appropriate physical activity was identified as a barrier to engaging in physical activity across four studies (Hartley and Yeowell, 2015; Victor, 2014; Khanam and Costarelli, 2008; Snape and Binks, 2008). Some South Asian older women reported not knowing the safe walking routes or not having facilities within walkable distance. Some of the respondents in the included studies also expressed concerns with walking in unsafe neighbourhoods. People with poor English literacy felt more vulnerable when walking in public spaces (Sriskantharajah and Kai, 2007). As such, some women felt that the safest place to walk was in their homes, although over-crowding posed a practical challenge (Grace et al., 2008). Some women reported not being able to travel to exercise facilities due to lack of time.

5. Discussion

Findings from this study show that although awareness of the benefits of physical activity can promote engagement, several factors can prevent physical activity participation among adults and older adults from BME communities. Lifestyle factors relating to work-life balance can act as a barrier to physical activity. Most of the South Asian men in the studies included reported working extra-long hours to meet family and household demands. In addition to having no time, such people may be unwilling to attend physical activity classes with financial implications. This research also identified that language barrier can pose a dis-empowering effect on an individual's confidence to engage in group physical activity. Older adults from South Asian communities have previously reported a lack of confidence due to poor English literacy, as a barrier to physical activity in public spaces (Horne and Tierney, 2012); this has been associated with poor health outcomes (Fryer et al., 2012).

Only two of seven studies included in this review reported that participants understood the benefits of physical activity. This implies that more effort is needed to engage local BME communities in discussions about the benefits of physical activity. Religious organisations, local health services and community networks can act as a channel to relay information about physical activity and active living among BME communities. Findings from our study highlight the significant role of Islamic religious leaders in addressing issues around religious fatalism which acts as a barrier to physical activity among some of the first-generation South Asian Muslim women. This is particularly important as members of the Muslim community perceive Islamic religious leaders to be influential and trust-worthy. Islamic leaders are therefore in a position to act as champions to promote active living. (Donnelly et al., 2012). Health professionals were also acknowledged as a credible source of information on physical activity. However, the recommendations from health professionals are often evaluated by the clarity of the information provided and their perceived trustworthiness.

This review also identified the importance of providing access to culturally appropriate environment for physical activity. Most of the minority ethnic groups in the UK live in economically disadvantaged areas with inadequate physical activity facilities, unsafe walking paths

and limited access to open green space (Platt, 2007). Recognising and valuing the cultural differences between BME and non-BME groups requires creating the necessary space that preserves the values of modesty. This study found that engaging residents in the design of physical activity facilities within the community can create a sense of belonging among residents. The barriers and facilitators of physical activity among BME older adults are perceived to exist at an individual, social and community level and socio-economic, cultural and environmental level. A complex interplay of these factors can impact on the decision to engage in physical activity.

This review identified research gaps in relation to the experiences of Africans living in the UK. Most of the studies included in this review explored the views of first and second generation South Asian adults. No studies to date have evaluated the experiences of older people of African descent. The literature on physical activity experiences of BME older adults is dominated with evidence from South Asian groups. Sproston and Mindell argued that the lack of literature on Black Africans and Caribbeans may result from the fact that the level of physical activity among Africans is not different from the general population (Sproston and Mindell, 2006). However, considering the evidence that Black Africans have a higher risk of stroke, hypertension and obesity compared to any other ethnic group, this explanation is unjustifiable. Roe and colleagues in 2016 investigated health disparities among diverse ethnic groups associated with the use of urban green space in England (Roe et al., 2016). The authors found that African-Caribbean people aged 65 and above reported the lowest level of physical activity and the poorest health status compared to other groups within the sample population (Roe et al., 2016). Clearly, there is an argument to conduct further research to investigate physical activity patterns among the African population in the UK.

6. Strengths and limitations of the review

A key strength of this review is the rigour and transparency of the underpinning research methods. This review also identified an important research gap to explore the experiences of adults and older adults from African backgrounds.

One of the limitations of the review was the decision to include only studies conducted in the UK. This decision was reached as a result of the lack of UK-centric review evidence among adults and older adults from BME backgrounds. The focus on the UK also highlights the paucity of evidence and strengthens the argument for further research among BME groups in general.

Another issue to consider is the validity of qualitative synthesis. Some academic scholars question the validity of qualitative synthesis, arguing that any aggregation of qualitative synthesis destroys the theoretical integrity of studies included in the review (Bergdahl, 2019). The findings from our review have shown the importance of qualitative evidence synthesis in identifying best practices and research gaps.

7. Conclusion

Physical inactivity among older adults is a risk factor for non-communicable disease. Interventions aimed at improving physical activity participation among older adults should be acceptable and accessible to minority groups. Adults and older adults from BME groups encounter more barriers to physical activity than their white counterparts. An understanding of these barriers and facilitators is a prerequisite to the development of any successful intervention to address low levels of physical activity among BME communities.

Findings from this study highlight the importance of engaging local BME residents in the design of physical activity facilities within the community. This will ensure that cultural and social concerns are recognised and properly addressed. This review has also identified gaps in evidence around the barriers and enablers of older adults from African and Afro-Caribbean descent. We recommend further research to

investigate the barriers and facilitators of physical activity among adults and older adults from African descent.

List of abbreviations

BME	Black and Minority Ethnic
CASP	Critical Appraisal Skills Programme
NHS	National Health Service
RTA	Reciprocal Translational Analysis

Availability of data and material

All data generated or analysed during this study are included in this published article [and its supplementary information files].

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Authors' contributions

The literature search, quality appraisal and data extraction were conducted by JI. PP assessed a sample of studies for quality and verified data extraction. JI drafted the manuscript. All authors read, amended and approved the final manuscript.

Declaration of Competing Interest

The authors declare that they have no competing interests.

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