

Perceptions and attitudes towards exercise among Chinese elders – the implications of culturally based self-management strategies for effective health-related help seeking and person-centred care

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Abstract

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Background Encouraging the uptake of physical activity among a culturally diverse elderly population presents a challenge for health-care providers across the world. Little is known about the health-care needs of these populations, for example the increasingly ageing group of Chinese elders in many parts of the world who are now facing later life and increasing challenges to their health.

Objective This study aimed to explore behaviours and attitudes towards exercise among older Chinese immigrants in the UK to provide insights into the health of Chinese populations in the UK and elsewhere.

Design A Grounded Theory approach using purposive and theoretical sampling with in-depth semi-structured interviews.

Setting and participants Chinese elders were recruited from Chinese communities in the North West of England. Thirty-three participants were interviewed face-to-face and audio-recorded.

Results Participants self-managed exercise based on cultural perceptions of health and ingrained Chinese values. Professional support and information was lacking and relied on folk norms rather than person-centred recommendations for healthy living. Inappropriate exercise regimes could act as a substitute for seeking health-related advice when exercise was often used as a self-monitored barometer to assess their perceived health status.

Discussion and conclusion Chinese elders may undertake inappropriate exercise, leading to high-risk situations, if appropriate professional information is not provided. Health-care practitioners should devote attention to understanding Chinese elders' attitudes

towards exercise, as this may ultimately lead to successful health promotion activities. A person-centred approach that acknowledges and works with self-management practices is advocated.

Background

Physical inactivity is a major public health issue worldwide, and increasing physical activity levels in the ageing population is a concern for policy makers in many countries. It is now widely accepted that regular physical activity can improve both morbidity and premature mortality in older people, even for those with chronic and ongoing health-care problems.¹⁻⁴ The most recent guidelines from the UK, for example, indicate that older people should undertake approximately 2 h of moderate intensity exercise in bouts of 10 min at a time or one and a quarter hours of vigorous activity per week to achieve maximum benefits to their health and well-being.¹ Among the reported health benefits from exercise for older people are a reduction in falls (particularly where balance training is included in the fitness activity), greater psychological well-being, social support and cardiovascular fitness.^{1,2} Similar recommendations have been developed in other countries,^{5,6} but the applicability or acceptability of these recommendations to people from minority ethnic groups has seldom been examined in the literature.

Despite the fact that exercise guidelines and protocols for maximizing health are widely known and accepted by health-care professionals, older people still report less physical activity than is recommended in the UK, the USA^{1,2,7} and other countries.^{6,8,9} There are also differences in activity levels across age bands and socioeconomic groups in later life in terms of exercise behaviour.^{5,7} People from poorer socioeconomic groups are known to have more co-morbid health problems,¹⁰ exercise less and have fewer choices regarding exercise activity^{11,12} than people in higher socio-economic groups.

Black and Minority Ethnic (BME) groups (usually located in poor socio-economic

groups) are also known to exercise less when compared with Caucasian counterparts of a similar age.^{13,14} In the UK, like most of the developed world, there is a commitment to tackling health inequalities based on economic and cultural determinants.^{2,13} To provide equality of opportunity through health-related initiatives, it is essential to understand the attitudes and behaviours of ageing populations to guide the provision of culturally sensitive and acceptable services.¹⁵ Health-care practitioners need to develop an understanding of the needs of culturally diverse groups if they are to effectively promote behaviour change and effective person-centred care.¹³

People of Chinese origin have migrated across the world from the Chinese mainland, Taiwan and Hong Kong to more than one hundred and fifty countries, and as a migrant population, they represent sizeable populations in many South East Asian countries (for example Singapore, Indonesia, Malaysia).¹⁶ There are also significant well-established populations of Chinese migrants (and their families) in the Americas,¹⁶ Australia,¹⁷ Europe^{18,19} and in the UK. There was a significant increase in emigration from China during and shortly following the Second World War, and this continued until the 1960s, with a steady stream of Chinese migrants entering the UK and other European countries.¹⁸ In the 1980s, there was a relaxation of Chinese emigration laws that led to an increase in migration to many western countries.¹⁶ Young first-generation Chinese migrants who settled in many countries are now approaching their later years^{18,20} many of whom still use various Chinese dialects as their first and sometimes only language.¹⁸

As an example, in the UK, the Chinese minority ethnic group is the fastest growing group among all black and minority ethnic groups (BME).²¹ There is a long history of Chinese immigration across the UK with

sizeable concentrations of first- and second-generation people of Chinese origin in Liverpool, Manchester and London²⁰ amongst other locations. These communities often become enclaves where the Chinese heritage, way of life and complimentary health and welfare services are focussed to support the local Chinese people (and their British-born families) populations.¹⁸ It is noted in the literature that contemporary Chinese people in the UK (and elsewhere in the world) rely heavily on Traditional Chinese Medicine (TCM) approaches to health and well-being and use Western medicine (WM) often as a secondary or supplementary option when managing their health-related problems.^{18,22} A recent systematic review²³ included 28 studies of 'mediocre quality' finding that Chinese people retained a strong cultural affinity with TCM but had heterogeneous views about disclosure of this to WM professionals. They concluded that on an international level, there was the potential for harmful and complex drug interactions and treatment concordance among Chinese people using WM. As well as treatment of actual medical conditions, there is concern on an international level that Chinese migrants do not respond to general health promotion activities for common health problems and screening activities.^{24,25} A recent survey of Chinese people in UK Midlands region ($n = 436$) found that exercise was an important factor for Chinese people in preventing heart disease, but they had little knowledge of the correct methods of exercise to achieve health.²⁶ Data such as these are only just coming to light as elderly migrant populations reach the age when increasing health problems occur.

On an international level, Chinese men and women are more likely to self-report good health at most ages than local British people and other ethnic minorities.²³ This may be associated with Chinese peoples' reliance on self-management of health problems and a dislike of seeking health-related help from others,¹⁸ along with a predilection to consider themselves healthy even when they may not be.^{27,28} That Chinese immigrants usually

self-manage their health has long been recognized within many host societies^{22,29} and may explain discrepancies between reported and actual health status.³⁰ Exercise is reported as a key component of an overall approach to the self-management of health among Chinese people.^{31,32} However, some studies conducted in mainland China and Hong Kong suggest that older age is independently associated with a lower likelihood of participation in physical activity.^{8,9} There is little detailed information about how Chinese immigrants manage exercise and how they view its impact on their health. It is therefore timely to investigate attitudes and practices relating to exercise in this increasingly ageing population so that health-care practitioners in the UK and elsewhere in the world may provide culturally sensitive education, counselling and the successful health promotion to migrant older Chinese people.

Objective

The aim of this qualitative study was to examine migrant Chinese elders' notions of health, well-being and help seeking in the UK. Attitudes and practices relating to exercise formed a significant part of this basic social process and the theory and will be reported here.

Methods

Design

Given the exploratory nature of the enquiry and the limited existing evidence base, a qualitative approach using Glaserian Grounded Theory was chosen due to its commitment to gaining insight into the experiences of participants. Moreover, it is a flexible, emergent (emic) design in line with Glaserian^{33,34} approach to Grounded Theory. It allows the researcher to develop an emic understanding of the basic social processes that are grounded in the representations of under-researched areas of concern.^{34,35} By definition, it begins in an exploratory format becoming increasing

focussed as the emerging themes arise and direct the study.

This study began with an open approach to questioning in the interviews. After reviewing and analysing the first three interviews, it became clear that health and health-related help seeking were prominent issues for the participants. Thus, the general semi-structured interview questions (for example can you tell me about your health and well-being) were replaced with more semi-structured but not preclusive questions that allowed for exploration and clarification. Glaser (1978, 1992) refers to the process of entering the field with an open mind rather than an empty one and suggests that the idea of no structure in the process of generating theory would leave the research formless.^{34,35} We therefore invariably entered the field with preconceptions that are a necessary starting point which may, however, be disqualified as the participant's perspective takes precedence which was the case in this study.

Participants

Initially participants were selected from three Chinese community settings in North West of England and were from different backgrounds to achieve the maximum possible variation of experiences and perceptions. This was done through the use of gatekeepers (people who are important or knowledgeable within the field) and by the recommendation of the participants themselves who then offered information to other elders who could contribute to the study. In this way, sampling diversity was focused and purposive during the recruitment procedure to gain the point of saturation and generate an emerging theory.³⁴ Theoretical sampling was used later as the data collection progressed and was driven by the emerging findings from the ongoing data analysis. Once again gatekeepers and the participants themselves were instrumental in recruiting participants who were able to add to the developing theory. The study received ethical approval from the Research Ethics Committee at the host university, and all participants gave written and

informed consent for which they were allowed at least two full days (minimum) to consider participation.

Data collection

Open-ended and semi-structured interviews were conducted in the participants preferred language (Mandarin or Cantonese) using a semi-structured interview guide. All interviews were conducted at a time and place chosen by participants (mainly Chinese social club centres and the participants' home). Interviews were recorded and transcribed into Chinese and then translated into English. Back translation ensured the accuracy of the translation process, and the transcripts were checked by a second bilingual researcher. During the first few interviews, broad questions such as 'tell me about your recent health', 'tell me about your health in general', and 'what sort of things do you worry about in relation to your wellbeing?' were discussed. When exercise emerged as a significant theme, additional specific questions were added about perceptions, attitudes and experiences of undertaking exercise. The Chinese interviewer (ZL) also recorded hand-written notes both during the interview and reflective field notes after.

Data analysis

Data analysis was initiated on the completion of the first interview. Through carefully listening to recordings and reading transcripts and field notes, the process of coding began using substantive coding (conceptualizing the empirical matter) followed by theoretical coding which conceptualized and tested the emerging theory in ongoing data collection and analysis.³⁴ The Grounded Theory concepts of the constant comparison method and theoretical sensitivity were used during the whole study process to ensure that the developing codes and theory remained grounded in the data.^{33,34} Interviews towards the end of the study developed emerging themes.

The trustworthiness of the data was ensured through a rigorous approach to data analysis

and presentation. All three of the researchers coded early transcriptions separately and comparisons were made. As the themes developed through a process of reflexivity, the interconnections between the data were explored and presented to other experienced Grounded Theory researchers at formal presentations to establish an audit trail in the analysis.³⁶ In the presentation of the data, exemplar quotations have been offered so that readers may judge the truth value of the findings and the abstractions we have made through careful analysis. The data were also presented to a number of elders who gave feedback on the findings. These are recognized approaches to ensure rigour in qualitative research.^{37,38} The research team comprised of two experienced qualitative nurse/health researchers (SS and KB) and a public health researcher (ZL) who speaks English along with Cantonese and Mandarin Chinese who facilitated the research interviews. Via these approaches, the study reported here enabled the identification of consensus among other participants as well as disagreements or differences of opinion with the analysed data.

Results

A total of 33 first-generation Chinese elders from the North West of England participated directly in the study from July 2008 to June 2011. Table 1 indicates that the majority of participants were female between 60 and 84 years with a mean age of 71 suggesting that they were an ageing population. It might be expected that this group of people with an average of 25 years residency may be confident and competent users of the UK health-care system. There were low levels of literacy among the group with the majority having none or only primary school education (up to age 12) suggesting that reading skills were limited among this group. Three participants were interviewed more than once as they took the opportunity offered to all participants to contact the primary researcher if they felt there was anything further to add to the interview. The final sample represented a reasonably

Table 1 Characteristics of the study sample ($n = 33$)

Gender	
Male	10 (30.3%)
Female	23 (69.7%)
Age range (mean age)	60–84 years (71 years)
Years living in the UK (mean duration)	1.5–54 years (25 years)
Education level	
None	6 (18.2%)
Primary school	16 (48.5%)
Secondary education	8 (24.2%)
University	3 (9.1%)
Marital status	
Married	14 (42.4%)
Widowed	19 (57.6%)

mixed group of elderly Chinese people with a range of ages, years lived in the UK, gender and different educational levels (see Table 1).

Four main themes were identified: (i) perceptions about exercise, (ii) frequency and type of exercise, (iii) professional and lay influences on exercise and (iv) exercise as a barrier to help seeking.

Perceptions about exercise

Exercise was considered key to preventing disease, healing and promoting health. Exercise enhanced mood and spirit, stimulating the body and mind. The self-management (individual perceptions rather than based on advice or recommendations) of regular and frequent exercise, irrespective of type, was an important factor in maintaining a sense of physical and psychological well-being:

In sum, my health mainly depends on my exercises. I think about exercise a lot ... Because when people get to this age, older and older, the natural resistance of the body is weaker and weaker. It is because the physical quality is not as good as it in the youth. Now I keep doing exercise is for enhance my physical quality ... It makes me very happy and my mood is very nice. That's good, good for my health. After exercise, I feel my body is in a good condition. I feel comfortable ... Self management and self promotion, such as I am now doing exercise and think about this a lot... every day I do exercise and after it I

feel very comfortable. (Interview 35, ID 31, Female, 66 years old)

The ability to undertake physical exercise was an important indicator of health status. This encouraging dedication and commitment to activity is noteworthy here because for elders who exercised regularly the intention was to promote health and also to verify how healthy they were. Being agile through movement equated with being healthy and the ease with which they could move was a characteristic of youth and a strong indicator of health in later life.

I often do exercise so I am in good condition. The other elders can't crouch down because they are too rigid. However, I can do that since I do exercise all day such as jumping with one leg, jogging or swing my arms in sequence. (Interview 2, ID 2, Female, 70 years old)

Ageing was acknowledged as an inevitable process but participants thought that the process could be slowed by maintaining a regime of physical activity. Participants who reported health problems, such as joint stiffness, tended not to seek causes for their health problems but self-managed, adapting exercises instead of seeking information and advice. Regular exercise and certain activities were thought to prevent many forms of degenerative diseases and relieve certain symptoms. However, this view could be taken to an extreme, and some elders avoided a sedentary lifestyle even when experiencing health problems, believing that physical exercise speeded up the recovery process.

Even during that period of time (when I was sick), I still insisted on doing exercise. My son asked me to have a good rest at that time, but I still continue my exercise. I think it will be good for me. (Interview 25, ID 23, Male, 83 years old)

Sometimes I was unsteady on my feet and when I wanted to stand up and then I felt a bit wonky. Now I think about doing exercise a lot. Maybe exercise helps me to handle this problem. Making it better ... Now it only depends on doing exercise. (Interview 33, ID 29, Female, 60 years old)

Elders believed that physical exercise could prevent bones and joints from deteriorating

and could stimulate their internal organs and bring benefits to the whole body, lowering blood pressure and improving blood circulation. However, participants could fail to seek help when needed. One participant (ID 29) avoided seeking help for dizziness when standing and used exercise to treat or control what could potentially be a cardinal symptom of illness. Most elders emphasized the advantages of exercise with few reporting any potential dangers of engaging in physical activities.

Frequency and type of exercise

Participants had clear views on the most beneficial frequency, intensity and types of exercise. Ideally exercise should be carried out on a daily basis and preferably early morning.

I insist on doing exercise every morning after I get up. This is the main thing to keep me healthy ... The health issue is the most important thing now. I get up at 6am every day. Then I go outside to do exercise for 1 h. After that I have my breakfast. I go out have a walk again after my breakfast. Every day I insist on doing exercise like this. The regular life style is very good for health. (Interview 25, ID 23, Male, 83 years old)

Chinese elders mentioned many kinds of gentle and generally non-vigorous exercises, such as Tai Chi and walking, which were most often utilized by the majority of elders in their daily life.

Elders should have some exercise every day. The easiest exercise is 30 min' walking every day. (Interview 11, ID 3, Female, 82 years old)

I come to take part in Tai Chi every week as many other elders and I have done this for nearly 2 months. Tai Chi is very good, good for my health. (Interview 19, ID 18, Male, 60 years old)

Elders favoured these exercises because they described them as 'softness', 'fitness', 'mildness' and 'slow in tempo', in contrast to intensive or competitive sports undertaken by younger people. The link between physical health and exercise is clearly an integral part of life for many

Chinese elders, and this is important to acknowledge and suitable exercises were characterized as having a slow and harmonious rhythm and were thus more 'suitable' for elders' physique and time of life as the participants considered themselves as a physically weak group.

I think I cannot do intensive exercise. In the past, I like sport. I played football frequently. There was none of these problems in the past. But suddenly I felt I have many problems. Age, old age ... I feel I am weaker than before. Years make me older and older. Health should be kept when you are a child. It should be kept in a good condition, a good level. If you get old, you only can do some minor exercise to keep your healthy. But you can't do it intensively. (Interview 19, ID 18, Male, 60 years old)

Gentle exercise was perceived as beneficial for health promotion, whilst too much exertion was something most elders carefully avoided. Getting breathless or strenuous physical exertion ran contrary to the desired effect from exercise. Exercise was mainly about mobility rather than exertion and strong or vigorous exercise was associated by many of the participants with a likelihood of deterioration in their physical condition.

Professional and lay influences on exercise

Elders tended to plan exercise regimes based on personal beliefs about the benefits of exercise. While elders generally reported a preference for low-intensity exercise, this was not always evident when health problems arose. Although participants reported an array of physical ailments and problems, only one female elder, suffering from a musculo-skeletal condition, mentioned receiving beneficial information and support from a health professional on how to promote recovery.

Take the time of peri-shoulder-joint inflammation as an example, after the checks, the doctor also taught me some knowledge, such as how to recover better with proper exercise. (Interview 3, ID 3, Female, 82 years old)

Many appeared unaware of the potential dangers that they may be placing on themselves

by not seeking professional advice when experiencing health problems. One elder reported that he actively engaged in very intensive exercise in his daily life which functioned as his own particular way of evaluating his health status.

I do some intense exercises on purpose to check chest pain. After that I will feel the function of my heart to check whether I can bear it or not. If after doing the exercise, I feel there is no uncomfortable feeling then I think my heart function is good. If there is uncomfortable feeling after only slight exercises, such as some walking and feeling tired, then there must be some problems with heart. This is very useful for checking the body function ... My friend told me that. I think that my heart is very good as there is nothing wrong after I do that intense exercise. So I do not need to see doctor ... sometimes I play table tennis or boxing, I will do it intensely to check whether there is problem with my heart or not, to check its function. (Interview 18, ID 17, Male, 60 years old)

Although this male participant did not report having a diagnosed cardiac condition, he was aware of potential heart problems and instigated his own assessment of health status by undertaking very vigorous exercise to see whether he could 'bear it or not'. This is a double-edged sword in that it acknowledges that elders were exercising even if they had health-care problems. However, elders lacked appropriate information from professionals and perceived that their own particular preference for exercise was a panacea for all health problems. This crude health assessment via exercise could be detrimental to health. Many elders were not aware of guidance about healthy activities and would plan their own recovery programme or seek advice from friends rather than health professionals. It is encouraging that they were seeking and taking advice and information from any possible source:

I have a friend in Beijing, and we send email to each other regularly. She is of the same age as me. We often talk about how an elder can keep healthy ... tips about eating, sleeping and exercise ... sometimes, we search these information

from internet. (Interview 11, ID 3, Female, 82 years old)

Elders generally believed that their approach to exercise was firmly rooted in Traditional Chinese Medicine (TCM) and Chinese medical practice. However, on further investigation, it appeared that folk and lay beliefs were more prominent. With the exception of one elder who was a retired TCM doctor (ID 32), none of the other participants had any TCM or related education. Few of the elders were actually able to relate their ideas about health and wellness to TCM. However, a diluted form of TCM in the form of folk norms and anecdotes from their peers seemed to inform their choices. Although participants realized that their information sources were not ideal, they were inclined to accept the 'helpful' pieces of information from peers when they received them as information had not been forthcoming from professional sources.

Actually, every time I go to see my GP (General Practitioner), the conversation with my GP is always very brief ... just use some simple words. That's it... (Interview 30, ID 28, Female, 70 years old)

The general idea was that they would be receptive to appropriate advice or information from Western medical services which would help them modify their exercise practices.

Exercise as a barrier to help seeking

Most elders considered exercise as a universal approach to dealing with their health problems. They relied on their own interpretations of illness and what would benefit recovery. This approach could arguably be dangerous if elders self-managed their problems based on the belief that exercise could cure all ailments. Participants' perceptions of exercise as a way of managing symptoms could hinder help-seeking behaviour. One female elder diagnosed with cardiac problems had decided to undertake exercise rather than take her prescribed medication for the condition. Although this participant perceived that exercise would be

more beneficial than medication it is a cause for concern that prescribed medication was not being taken.

There is nothing wrong with my heart, so I didn't take it anymore (calcium channel blocking medication for angina). All because that I did exercise, and my body got better gradually. I do every kind of exercise. I do a lot of exercise. (Interview 13, ID 12, Female, 84 years old)

Discussion and conclusion

Chinese elders held strong views about the importance of exercise in their daily lives. They adopted self-management approaches to achieve a healthy physical and mental health status. Based on their own understanding and experience of health and illness, elders took personal responsibility for decisions about exercise which, from their perspective, helped them to maintain and improve physical fitness, and treat or prevent minor and sometimes major ailments. Chinese elders exercised regularly and made a strong connection between exercise and health. Whilst an understanding of the value of exercise is useful in maintaining health, these findings suggest that exercise was often viewed as a panacea for many health problems, hindering elders from seeking advice from health professionals. No participants mentioned the government recommendations for exercise,¹ although they emphasized and provided detailed information on the features of their own personal exercise preferences. Professional advice and information was notable by its absence among the elders in this study. It is important for health-care professionals to understand that older Chinese people have their own perceptions of the value of exercise which may deter them from seeking professional support.

In the UK, tailored exercise offered by professionals is recommended.^{1,5,39} That is, exercise programmes based on the professionals' judgement of the specific situation of each individual based on medical conditions and or personal circumstances. This should be achieved through a thorough assessment, education and

planning sessions with suitably trained practitioners.^{1,39} There were no tailored exercise programmes individually reported by Chinese elders even if elders were in regular contact with health-care services. Furthermore, the findings of this study showed that, without support, exercise sometimes hindered elders' help-seeking behaviours. The consequences of Chinese elders' inappropriate self-management of exercise were sometimes quite worrying. This may result in serious or potentially fatal health problems being ignored at worst and late presentation at best, which could ultimately put these elders at further risk. No participants reported that they were being followed up by a health professional, whereas guidelines from the UK's National Institute of Clinical Excellence state that physical activity should be followed up by professionals at appropriate intervals over a 3–6-month period⁵ where support and encouragement and person-centred care may be given to participants.¹

Like many countries across the world,^{2,7} the UK's Department of Health^{1,15} states that health support may be particularly useful to people from ethnic minority communities, where language and culture can be a real barrier to self-care.^{5,40} Although no study related to Western health professionals supervision and or support of exercise programmes for Chinese people has been published, a recent study investigated South Asian adults' (60–70 years old) physical activity and found that primary health-care professionals' and nurses interest and empathy with older people about the positive benefits of physical activity could increase their activity levels, recommending that advice should be tailored to the older adult's individual symptoms.⁴¹ Whilst the data presented in this may appear pessimistic, it is clear that there is a commitment and enthusiasm for exercise among the older Chinese people in this study. This is important knowledge and could be an encouraging starting point for interventions. Whilst older Chinese people may be exercising the tension is that they are not undertaking recommended amounts or forms of exercise. This may be due to a lack of infor-

mation, further cultural barriers or even personal preferences⁴² but not a lack of willing. More research is needed to understand the detail of this, but the fact that exercise is part of the routine of many Chinese elders should encourage health-care professionals in their efforts. Health-related interventions will need to take on a culturally pluralistic approach that combines sometimes competing, but not mutually exclusive, philosophies (for example Chinese and Western medicine beliefs). This is an exciting area for future research in the development testing of interventions.

To conclude, this study has illustrated that Chinese elders perceive that exercise was key to achieving good health. However, the type and frequency of exercise varied considerably, but in the main, they were not reaching recommended levels for exercise.^{1,4} They relied on lay understandings of the benefits of exercise which do not fit with accepted national or indeed international recommendations; however, they were exercising regularly and valued exercise as a health-preserving activity. There is a need therefore for a greater understanding by health professionals of Chinese elders' attitudes towards exercise to increase their help-seeking behaviour, their early access to treatment and the promotion of their health. At the most basic level, exercise has different meanings for different Chinese people, and health-care practitioners should investigate these in their assessment process. It is important for health-care providers to be aware of these potential barriers to effective person-centred care.

These findings have implications for practice both in the UK and in other situations where Chinese people have settled and live. Self-care is highlighted as a key element for a patient-centred health service, particularly for supporting people with long-term conditions.^{2,43,44} There is less evidence for the effectiveness of these strategies and interventions among ethnic minority groups.^{28,41,45} An understanding of these issues may help health-care practitioners to develop and evaluate culturally appropriate, person-centred exercise interventions. The needs of Chinese elders should be met as a

matter of priority as this is an ageing population who are set to face many health-care problems in the near future.²⁶ It is suggested that given the international consistency in the recommendations for exercise and healthy living for older people² that these findings will have resonance for migrant Chinese elders who have settled and live in other countries.

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Conflicts of interest

None declared.

References

- 1 Department of Health. *Start Active, Stay Active: A Report on Physical Activity for Health from the Four Home Countries*. Chief Medical Officers, D.o. Health, Editor. London: HMSO, 2011.
- 2 WHO. Chronic diseases. 2010. Available at: http://www.who.int/topics/chronic_diseases/en/, accessed 22 May 2010.
- 3 United States Department of Health and Human Services. *Healthy People 2010*. D.o.H.a.H. Services, Editor, Washington DC, USA: Department of Health and Human Services, 2000.
- 4 World Health Organisation. *Global Recommendations on Physical Activity for Health*. Geneva: WHO, 2010.
- 5 National Institute for Health And Clinical Excellence. *Four Commonly used Methods to Increase Physical Activity: Brief Interventions in Primary Care, Exercise Referral Schemes, Pedometers and Community-Based Exercise Programmes for Walking and Cycling*. N.I.f.H.A.C. Excellence, Editor. London: NICE, 2006.
- 6 Haskell WL, Lee IM, Pate RR *et al*. Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. *Medicine & Science in Sports & Exercise*, 2007; **39**: 1423–1434.
- 7 Harris TJ, Owen CG, Victor CR, Adams R, Cook DG. What factors are associated with physical activity in older people, assessed objectively by accelerometry?. *British Journal of Sports Medicine*, 2009; **43**: 442–450.
- 8 Munter P, Gu D, Wildman RP *et al*. Prevalence of physical activity among Chinese adults: results from the international collaborative study of cardiovascular disease in Asia. *American Journal of Public Health*, 2005; **95**: 1632–1636.
- 9 Gao KL, Tsang WWN. Use of accelerometry to quantify the physical activity level of the elderly. *Hong Kong Physiotherapy Journal*, 2008; **26**: 18–23.
- 10 Sacker A, Head J, Gimeno D, Bartley M. Social inequality in physical and mental health comorbidity dynamics. *Psychosomatic Medicine*, 2009; **71**: 763–770.
- 11 Horne M, Speed S, Skelton D, Todd C. What do community-dwelling Caucasian and South Asian 60–70 year olds think about exercise for fall prevention? *Age and Ageing*, 2009; **38**: 68–73.
- 12 Withall J, Jago R, Fox KR. Who attends physical activity programmes in deprived neighbourhoods? *Health Education Journal*, 2010; **70**: 206–216.
- 13 Marmot M. The Marmot Review: Fair Society, Healthy Lives. Strategic Review of Health Inequalities in England post-2010. D.o. Health, Editor 2010, Crown Copyright.
- 14 Wanless D. *Securing Good Health for the Whole Population: Final Report*. London: HMSO, 2004.
- 15 Department of Health. *No Patient Left Behind: How Can We Ensure World Class Primary Care for Black and Minority Ethnic People?* D.o. Health, Editor 2008, Crown Copyright: London: HMSO, 2008.
- 16 Zhou M. *Contemporary Chinese America: Immigration, Ethnicity, and Community Transformation*. Philadelphia: Temple University Press, 2009.
- 17 Reeves R, Khoo T. Dragon tails: re interpreting Chinese Australian history. *Australian Historical Studies*, 2011; **42**: 4–16.
- 18 Gao Y. *Concealed Chains: Labour exploitation and Chinese migrants in Europe*. Geneva: International Labour Organisation, 2010.
- 19 Hillman F, Spann E, Van Naerssen T. Landscapes of Asian migrant labour in Europe, in Asian migrants and European labour markets: patterns and processes of immigrant labour market insertion in Europe. In: Spann E, Hillmann F, Van Naerssen T (eds) *Asian migrants and European labour markets: Patterns and processes of immigrant labour market insertion in Europe*. London: Routledge, 2005: 1–18.

- 20 Kuhn PA. *Chinese among Others: Emigration in Modern Times*. Lanham, MD: Rowman & Littlefield Publishers, 2008.
- 21 Office for National Statistics. *Population Estimates by Ethnic Group: 2001 to 2007 Commentary*. Newport: Office for National Statistics, 2009.
- 22 Kwok C, Sullivan G. Health seeking behaviours among Chinese-Australian women: implications for health promotion programmes. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 2007; **11**: 401–415.
- 23 Chung VCH, Ma PHX, Lau CH, Wong SYS, Yeoh EK, Griffiths SM. Views on traditional Chinese medicine amongst Chinese population: a systematic review of qualitative and quantitative studies. *Health Expectations*, 2012; **10**: 1369–7625.
- 24 Kwok C, Fethney J, White K. Chinese breast cancer screening beliefs questionnaire: development and psychometric testing with Chinese-Australian women. *Journal of Advanced Nursing*, 2010; **66**: 191–200.
- 25 Szczepura A, Price CL, Gumber A. Breast and bowel cancer screening uptake patterns over 15 years for UK South Asian ethnic minority populations, corrected for differences in socio-demographic characteristics. *Biomed Central Public Health*, 2008; **8**: 346.
- 26 Za T, Lau JCF, Wong ACK *et al.* Perceptions of risk factors of cardiovascular disease and cardiac rehabilitation: a cross-sectional study targeting the Chinese population in the midlands, UK. *Heart Asia*, 2012; **4**: 57–61.
- 27 Wong TKS, Pang SMC. Holism and caring: nursing in the Chinese health care culture. *Culture and Caring*, 2000; **15**: 12–21.
- 28 Chen Y-C. Chinese values, health and nursing. *Journal of Advanced Nursing*, 2001; **36**: 270–273.
- 29 Hsu-Hage BH-H, Tang KC, Li RJ, Lin V, Chow T, Thien F. A qualitative investigation into the use of health services among Melbourne Chinese. *Australian Journal of Primary Health*, 2001; **7**: 38–44.
- 30 Equality and Human Rights Commission. *How fair is Britain? Equality, Human Rights and Good Relations in 2010 the First Triennial Review*. Manchester: Equality and Human Rights Commission, 2010.
- 31 Lin HB. *Chinese Health Care Secrets: A Natural Lifestyle Approach*. Minnesota: Llewellyn Publications, 2001.
- 32 Kwan MMS, Close JCT, Wong AKW, Lord SR. Falls incidence, risk factors and consequences in Chinese older people: a systematic review. *Journal of the American Geriatrics Society*, 2011; **59**: 536–543.
- 33 Glaser BG, Strauss AL. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine Transaction, 1967.
- 34 Glaser BG. *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory*. California: The Sociology Press, 1978.
- 35 Glaser BG. *Basics of Grounded Theory Analysis: Emergence vs. Forcing*. California, US: Sociology Press, 1992.
- 36 Draucker CB, Martsof DS, Ross R, Rusk TB. Theoretical sampling and category development in grounded theory. *Qualitative Health Research*, 2007; **17**: 1137–1148.
- 37 Koch T. Establishing rigour in qualitative research: the decision trail. *Journal of Advanced Nursing*, 2006; **53**: 91–100.
- 38 Rolfe G. Validity, trustworthiness and rigour: quality and the idea of qualitative research. *Journal of Advanced Nursing*, 2004; **53**: 304–310.
- 39 National Institute for Health and Clinical Excellence. *Occupational Therapy Interventions and Physical Activity Interventions to Promote the Mental Wellbeing of Older People in Primary Care and Residential Care*. N.I.f.H.A.C. Excellence, Editor. London: NICE, 2008.
- 40 Huang S.-L, Spurgeon A. The mental health of Chinese immigrants in Birmingham, UK. *Ethnicity and Health*, 2006; **11**: 365–387.
- 41 Horne M, Skelton D, Speed S, Todd C. The influence of primary health care professionals in encouraging exercise and physical activity uptake among white and South Asian older adults: experiences of young older adults. *Patient Education and Counseling*, 2010; **78**: 97–103.
- 42 Chau RCM, Yu SWK, Tran CTL. Understanding the diverse health needs of Chinese people in Britain and developing cultural sensitive services. *Journal of Social Work*, 2011; **12**: 385–403.
- 43 Department of Health. *Self Care – A Real Choice*. C.f.t.D.o. Health, Editor: London: HMSO, 2005.
- 44 Department of Health. *Research Evidence on the Effectiveness of Self Care Support*. D.o. Health, Editor: London: HMSO, 2007b.
- 45 Eakin EG, Bull SS, Glasgow RE, Mason M. Reaching those most in need: a review of diabetes self-management interventions in disadvantaged populations. *Diabetes/Metabolism Research and Reviews*, 2002; **18**: 26–35.