

Assessing Early-stage Acceptability of the Adapted Version of the Lifestyle-Integrated Functional Exercise (aLiFE) Programme Among Community-dwelling Chinese Older Adults in the UK: A Qualitative Study

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Abstract

Background

Falls are a leading cause of injury and loss of independence among older adults. Although exercise-based interventions can reduce fall risk, sustaining adherence is challenging. The adapted Lifestyle-integrated Functional Exercise (aLiFE) programme addresses this by embedding balance, strength and physical activity tasks into daily routines. However, acceptability depends on whether older adults perceive aLiFE as understandable, manageable, safe and relevant. This may be particularly important for older Chinese adults living in UK, whose language preferences, cultural beliefs, social contexts and health-related experiences may shape perceptions of falls prevention. This study explored initial acceptability and perceived feasibility of aLiFE among older Chinese adults and healthcare professionals in UK.

Methods

Community-dwelling older Chinese adults and healthcare partners were purposively recruited in Manchester, UK. Three focus groups with 18 older Chinese adults and three individual interviews with healthcare partners were conducted. Participants completed aLiFE Activity Acceptability Rating Scale and Short Falls Efficacy Scale-International. Quantitative data were analysed descriptively, and qualitative data were analysed inductively using Reflexive Thematic Analysis to identify patterns in participants' views, concerns and recommendations.

Results

Three main themes were identified: (1) overall acceptability and perceived feasibility; (2) usability and accessibility of programme delivery and materials; (3) acceptability and perceived capability of programme activities. The lifestyle-integrated approach was generally viewed positively as being flexible and compatible with daily routines. Some participants considered documentation burdensome and queried accessibility and credibility of written records. Visual materials and group-based, face-to-face teaching were preferred to written instructions alone. Some activities were viewed as less acceptable because of concerns about safety, confidence and physical discomfort, particularly where tasks involved more challenging balance or strength components. Differences were also observed between older participants and healthcare partners, the latter tending to take a more cautious view of challenging activities and potential risks.

Conclusions

The aLiFE programme was generally perceived as feasible and acceptable among older Chinese adults and healthcare partners. Acceptability depended on how the concept, activities, materials and delivery format were understood and received. These findings provide insights to inform cultural adaptation of aLiFE for this population and support further refinement before wider implementation or evaluation.

BACKGROUND

Falls are one of the leading causes of injury, hospitalisation, and loss of independence among older adults [1]. In the UK, falls represent a substantial public health burden, particularly among those aged 65 years and over [2]. Exercise interventions that include balance and functional components have been shown to reduce the rate of falls in older adults by 24% [3]. However, the effectiveness of exercise-based falls prevention depends not only on efficacy, but also on whether older adults are able and willing to sustain participation over time. Adherence to exercise commonly declines for a range of reasons, including socioeconomic disadvantage, poor health status, time constraints, limited access to facilities, transport difficulties, and a lack of personalised support [4].

The adapted Lifestyle-integrated Functional Exercise (aLiFE) programme offers a different approach to falls prevention by encouraging older adults to integrate balance, strength, and physical activity tasks into their daily routines, rather than performing exercise as a separate activity [5]. It includes a range of neuromotor, strength, and physical activity tasks (Appendix Table 1), supported by self-monitoring tools such as Activity Planner and Activity Recorder. Previous reviews showed that such lifestyle-integrated approach may be perceived as more flexible and practical than traditional structured exercise [6–8]. However, because it introduces a different way of thinking about exercise, its acceptability is likely to depend on whether older adults find the concept understandable, relevant, and manageable in everyday life. Early responses to aLiFE programme may be particularly important when introducing it in a new population. Older adults' initial views of the suggested activities, supporting materials, and delivery format may shape whether the programme is seen as practical and worthwhile. Concern about falling may shaped how older adults respond to proposed programme activities, particularly those perceived as demanding or unsafe [9].

The population of older Chinese adults in the UK has grown in recent decades. Data from the 2021 Census of England and Wales indicate that 12.7% of individuals from the Chinese are aged 60 years and over [10]. The introduction of the British National (Overseas) (BN(O)) visa has contributed to the growth of this population [11]. However, exercise-based falls prevention interventions in the UK are predominantly attended by White older women [12], while older Chinese adults are less likely to be classified as physically active than the White British population and the national average [13]. Therefore, these factors highlight the importance of understanding the needs and preferences of this population.

Cultural adaptation involves more than language translation alone and may include modification of intervention materials, delivery, and implementation processes to improve contextual fit [14]. Previous research suggests that older Chinese adults' health seeking behaviours may be shaped by educational

background, cultural beliefs, social support, peer interaction, language preferences, and community influences [15–19]. Therefore, culturally adapting the design and delivery of local falls prevention interventions may be important for this population. This study therefore aimed to explore the initial acceptability and perceived feasibility of the aLiFE programme among community-dwelling older Chinese adults and healthcare partners in the UK, as an initial step in the development of a culturally adapted version of the aLiFE programme.

METHODS

Design and setting

This study was guided by the Medical Research Council (MRC) framework for the development and evaluation of complex interventions, which includes intervention development, feasibility, evaluation, and implementation [20]. The overall development process is present in Appendix Table 2, and this paper focused on stage 1. Data were collected through focus groups discussions with community-dwelling older Chinese adults and individual interviews with healthcare partners to explore anticipated acceptability and perceived feasibility of the aLiFE programme.

Participants and recruitment

Purposive sampling was used to capture variation in participant characteristics, including age, sex, and occupation. Snowball sampling was additionally employed, whereby participants referred other potential eligible individuals. Participants were recruited between January and March 2025 in Manchester UK, a city with a relatively large Chinese population (3.4%) [21]. Recognising the potential challenges in engaging ethnic minority participants, recruitment was facilitated through collaboration with a local non-profit organisation, the Chinese Health Information Centre. Initial contact with the organisation was made by email. Healthcare partners were identified through professional networks and recommendations from community organiser. Individuals who expressed interest were subsequently contacted by the main researcher and provided with detailed study information. Participation was voluntary, and declining involvement had no impact on access to community services.

Eligibility criteria

Eligible older adult participants were community-dwelling adults aged 60 years and above, residing in the UK, who self-identified as being of Chinese ethnicity and were able to communicate in Mandarin or Cantonese. Individuals were excluded if they reported severe medical or cognitive conditions that would substantially limit engagement in physical activity (e.g., psychosis, major depression, dementia, progressive malignancy). Older adults residing in nursing or residential care homes were not included. Healthcare partners were eligible if they were aged over 18 years and had at least 6 months community health services working experience with older Chinese adults. Sample size was guided by pragmatic

considerations, including feasibility of recruitment and the management of group interaction during focus groups [22]. We anticipated recruiting approximately 20 older Chinese adults and three healthcare partners, which allowing us to remain manageable for in-depth qualitative data collection. Recruitment proceeded iteratively, and data collection ceased when no substantially new themes emerged from subsequent discussions [23].

Data collection

Semi-structured discussion and interview guides were developed with reference to previous aLiFE interview guides [24] and refined through discussion with the supervisory team. To ensure that the questions were feasible and easily understood by participants, the guides were reviewed with older adults and researchers who were not involved in the present study, and minor revisions were made accordingly.

All sessions were audio-recorded using an encrypted digital recorder and the secure recording function within Microsoft Teams, with participants' consent, and were supplemented by field notes. In-person focus groups and interviews were conducted at the Chinese Health Information Centre or a nearby quiet café, depending on participants' preference. Each focus group lasted approximately 90 minutes, and each individual interview lasted approximately 60 minutes. During the focus groups, older participants were invited to try all programme activities and provide immediate feedback on their perceived acceptability and capability. Concern about falling was assessed using the Short Falls Efficacy Scale International (Short FES-I) [25]. Participants also completed an aLiFE Activity Rating Scale previously used in aLiFE study [12] to assess the perceived acceptability of individual activities. Responses were analysed descriptively, with frequencies and percentages calculated for each response category (acceptable, modification needed, unacceptable, or causing concern).

Research team and reflexivity

Focus groups and interviews were conducted by the first author, a female PhD candidate in Nursing with training in qualitative research methods. She is fluent in Mandarin and Cantonese, which facilitated direct communication with participants and analysis in the original language. Participants were informed of the researcher's academic background and the purpose of the study prior to participation. No prior personal relationships existed between researcher and older adult. Two healthcare partners were known to the main researcher, but no direct supervisory or dependent relationships were present.

Data Transcription and Analysis

All study materials, including the demonstration sections of the aLiFE participant manual, were translated into Chinese by the first author and reviewed by a bilingual co-author (Y.Y.) to ensure linguistic clarity and cultural appropriateness. Focus groups and interviews were conducted in participants'

preferred language. Transcripts were produced verbatim in the original language by the main researcher to preserve meaning. Key codes, themes, and illustrative quotations were subsequently translated into English by the main researcher for team discussion and manuscript preparation. Quantitative findings from the aLiFE Activity Acceptability Rating Scale were summarised descriptively and presented using bar charts to illustrate participants' ratings of individual activities. Qualitative findings were analysed inductively using Reflexive Thematic Analysis, following Braun and Clarke's six-phase approach [26, 27]. Initial coding was undertaken independently by the main researcher and co-author (Y.Y.) in NVivo 15 [28]. The coding was then compared and discussed to refine the developing codes, and theme development was further refined with supervisory team.

RESULTS

A total of 18 older Chinese adults participated in three focus groups, alongside three individual interviews with healthcare partners (a Nursing PhD researcher, a local non-profit organisation leader, and a Tai Chi trainer). Older participants' characteristics are summarised in Table 1, they were predominantly female (83%). Based on the Short FES-I, 22% of participants reported low concern about falling, 56% moderate concern, and 22% high concern. Four main themes were identified: (1) Perceived feasibility and practicality of the lifestyle-integrated concept; (2) Usability and accessibility of programme delivery and materials; (3) Perceived burden and accessibility of programme documentation and (4) Acceptability and perceived capability of programme activities. Exemplar quotations were presented in the following sections: older participants are identified by gender and age (e.g., F01; 68 years), and healthcare partners are identified by number only (e.g., H1).

Table 1
Demographic characteristics of older participants

Demographics	N = 18
Gender	
Women, number (%)	15 (83)
Men, number (%)	3 (17)
Age, Mean (SD)	76 (6.8)
64–69 (%)	5 (28)
70–79 (%)	7 (39)
80–87 (%)	6 (33)
Years in the UK	
2–9 (%)	2 (11)
10–40 (%)	4 (22)
41–60 (%)	12 (67)
Education level	
None (%)	4 (22)
Primary school (%)	12(67)
Lower secondary (%)	2 (11)
Occupation	
Retired (%)	18 (100)
Reported falling within last 6 months Total reporting fall (%)	4 (22)
One fall (%)	2 (11)
Two and more falls (%)	2 (11)
Level of Short FES-I	
Low concern (7–8) (%)	4 (22)
Moderate concern (9–13) (%)	10 (56)
High concern (14–28) (%)	4 (22)
Co-morbidities, number	
0 (%)	4 (22)
1 (%)	2 (11)

Demographics	N = 18
≥ 2 (%)	12 (67)

Theme 1 Perceived feasibility and practicality of the lifestyle-integrated concept

Both healthcare partners and older participants generally viewed the concept of lifestyle-integrated concept as acceptable and feasible. As one noted, *“they are very useful” (F18:83y)*. Participants particularly valued its flexibility compared with structured exercise, as it was perceived to reduce practical barriers related to time, location, transport, and the need for specialised equipment. For instant, one participant noted, *“This one is better. We can do it anytime” (F16:78y)*. Some older participants also highlighted the importance of language accessibility, noting that English dominant community activities were often less accessible, whereas a programme delivered in Chinese was easier to follow and felt more inclusive.

Many participants described already engaging physical activity such as Tai Chi, group walking, finger exercises, and running. Common reasons for exercise included maintaining health, relieving bodily pain, encouragement from family members, and the simplicity of certain activities. These existing habits suggest that some participants were already accustomed to regular movement, which may have made the idea of integrating activities into daily life easier to relate to. During the focus group discussions, some older participants were able to identify specific opportunities to integrate activities into daily life, suggesting that they had understood the lifestyle-integrated concept and could relate it to their own routines. For example, one participant noted, *“This one is better— I can do it at home while watching TV, and it can be done sitting down too” (F09:84y)*.

However, participants also suggested that long-term engagement might still depend on motivation, ongoing support, and whether the programme was perceived as beneficial. Some emphasised the importance of follow-up, as one older participant noted, *“It might feel fresh at first, but later people may become lazy and stop” (F05; 72 years)*. In addition, a small number of older participants suggested that their willingness to continue would depend on whether the programme led to noticeable improvements in physical function. As one participant explained, *“I might not be interested in this programme at first, but if it improves my physical ability, I’d like to keep it going. If not, I won’t” (F02; 67 years)*.

Theme 2 Usability and accessibility of programme delivery and materials

Both older participants and healthcare partners preferred group-based, face-to-face sessions. Older participants valued the social interaction and the opportunity to observe others’ movements, which helped them adjust and correct their own performance. As one participant commented, *“It’s more enjoyable when we learn together here” (F09; 84 years)*, while another added, *“When it’s face to face,*

someone can tell you if you're doing it wrong. Otherwise, you wouldn't know" (F02; 67 years). Healthcare partners, meanwhile, emphasised practical consideration, suggesting that group sizes should remain manageable, ideally not exceeding ten participants per session, and emphasised the importance of slow-paced instruction and repeated demonstration to ensure clarity and safe execution of movements.

Participants generally found the manual understandable; however, many older participants commented that it contained too much written detail and that lengthy explanations reduced clarity, particularly for those with lower literacy levels, making a format with fewer words and more picture-led content was preferable. Healthcare partners similarly highlighted the importance of accessible communication, suggesting that the translated manual should use simple, conversational language that older adults could easily understand. Healthcare partners further emphasised that cultural adaptation was reflected less in the movements themselves than in the translation, booklet design, and communication of the programme, *"I think the cultural characteristics don't show strongly in the movements themselves. Instead, they show more in your booklet design, like the language you use, or in how you communicate during the sessions" (H1).*

Older participants tended to prefer the manual in printed rather than electronic format, as paper materials were perceived as more convenient and better suited to their everyday habits. As one participant explained, *"If it's on paper, I can play with my phone at the same time. If everything is on the phone, I can't do both together" (F09; 84 years).* At the same time, some participants suggested that video demonstrations could usefully supplement face-to-face teaching, particularly for home practice and for older adults with lower literacy who might struggle with written explanations. Video guidance was perceived as a more direct way of understanding the movements than text and pictures alone. However, others expressed concerns about being unable to access or use video materials independently and therefore continued to prefer paper-based support only. Healthcare partners also suggested that clearly explaining the purpose and intended benefits of each movement might further enhance engagement.

Theme 3 Perceived burden and accessibility of programme documentation

Documentation requirements were also frequently discussed as an important issue affecting acceptability. While a small number of older participants felt that the Activity Planner and Activity Recorder might support engagement, many others questioned their usefulness. These tools were often perceived as potentially burdensome, with several participants indicating that they would prefer to complete the activities without written recording: *"Just do it without paper writing" (F07; 87 years; F08; 81 years; F10; 79 years).*

Limited literacy was also raised as an important issue. Several older participants described having little formal education due to early migration experiences and interrupted schooling. As one participant noted, *"I have never written a word. Also, we haven't had much education" (F05; 72 years).* Older participants therefore suggested that a simplified recording format, such as ticking predefined options rather than writing activity's name, would be more acceptable, as one participant explained, *"The best would be to list*

all the exercise items, or select a few based on each person's preferences, and then just tick the ones they've done—no need to write anything. That would make it much simpler” (F1-6). Some participants also indicated that written recording might reduce their willingness to engage with the programme, *“I would love to do the exercise but definitely not these data collection forms” (F08; 81 years).*

Healthcare partners similarly questioned the practicality of extensive documentation and credibility of the recorded data. In particular, they suggested that some older adults might complete the forms to please the researcher, might provide inaccurate or inconsistent responses, or might struggle to understand the written content because of limited literacy. As one healthcare partner noted, *“One of my participants said to me, she will not do any of these documents if I am not asking for it. She is doing this for me, not because she loves it” (H1),* while another commented, *“some people don’t have any data for days—so what can they do? They just make it up” (H2).*

Theme 4 Acceptability and perceived capability of programme activities

After trying all the activities during the focus group session, most older participants considered them generally acceptable and manageable. Several participants highlighted the familiarity and everyday relevance of specific movements. One participant noted, *‘We also learned this exercise (Sit to Stand) in physical therapy’ (F03; 69 years).* Activities such as Stepping and Changing Direction, Bending the Knees, and Up the Stairs were described as easy to integrate into daily life because they were already part of existing routines. *As one participant noted, “I go up the stairs a hundred times every day” (F18; 83 years),* while another commented, *“I stand on tiptoe while waiting for the bus” (F02, 67 years).* In addition, some activities were perceived as culturally familiar. For example, wall-sit positions in Tightening Muscle was compared to the “Horse Stance” in Tai Chi, On Your Toes was seen as similar to Baduanjin, and Square Stepping, Jumping and Hopping were linked to a childhood game. Similarly, healthcare partners identified activities such as Tandem Walk, One Leg Stand, Sit to Stand, and On Your Toes as feasible to embed into daily routines.

Some older participants also expressed willingness to try activities even when they initially felt uncertain. As one participant explained, *“It might involve some jumping. I’m not really used to it at first because I haven’t done that in a long time, but I think I’ll be fine once I get used to it” (F17; 64 years).* This suggested that unfamiliarity did not always prevent willingness to attempt more challenging movements. However, a small number of older participants did report feeling unsteady or dizzy when attempting neuromotor activities. More broadly, pain, physical limitations, fatigue, and reduced lower-limb strength were also described as factors affecting perceived capability. For example, some reported that activities such as Up the Stair felt too tiring, while others indicated that knee problems or previous experiences of sudden leg weakness reduced their confidence in performing movements. It is also worth notice that Square Stepping, Hopping, and Jumping received the lowest acceptability ratings in the aLiFE Activity Acceptability Rating Scale (Fig. 1). Older participants explained that this was mainly due to knee problems and unfamiliarity, as many had not performed such a movement for a long time, as one

mentioned, “I am okay with walking, but I can’t jump with a single leg because of my left knee (pain)” (F02:67y). Environmental constraints were additionally raised up by healthcare partners as some noting that these movements could be difficult to perform in limited home spaces and might create noise for downstairs neighbours, as one noted, “Most older people live in quite small retirement homes— there’s hardly enough space for you to jump around. And it’s also difficult to find somewhere like a car park” (S02).

In contrast to older participants’ greater willingness to try some challenging movements, healthcare partners tended to adopt a more cautious view. They placed greater emphasis on fall risk, physical limitations, and the need to reduce difficulty levels or avoid certain activities. Some also felt that the activity progression or “upgrade” system was complicated, particularly at higher levels of challenge. As one healthcare partner commented, “The upgrade is complicated” (H1), while another noted, “Levels 1 and 2 are fine, but the last one might be more of a balance issue. There’s the risk of them falling” (H3).

Overall, although the programme activities were generally perceived as acceptable, the findings across all themes highlighted several barriers and contextual considerations that may influence implementation in this population. These findings informed a set of suggested cultural modifications to the aLiFE programme, summarised in Table 2.

Table 2 Summary of identified challenges and suggested cultural modifications of the aLiFE programme	
Challenges	Suggested modification
Teaching format	Group teaching
Low literacy level	• Simplified manual with less words and more demonstration pictures • Translation should be more conversational and easily understandable
Paper burden	Activity recorder: • present within one page • tick-box format • simpler monitoring • less text-heavy documentation Activity planner: consider to be removed
Activities performance level	Lower beginning level of difficulties
Dislike jumping	Consider removing

DISCUSSION

This study explored older Chinese adults' and healthcare partners' initial perceptions of the aLiFE programme in the UK, providing early insights to inform the cultural adaptation of the programme for this population. Overall, the findings suggest that the lifestyle-integrated concept was viewed positively and appeared acceptable in principle. The generally positive response to the lifestyle-integrated concept is broadly consistent with previous LiFE-based studies and reviews, in which participants have also tended to view the programme positively and value its flexibility and fit with daily life [6, 7, 24]. However, anticipated engagement among older Chinese adults in the UK seemed likely to be shaped by the accessibility of programme materials, preferences regarding delivery format, the burden of documentation procedures, and confidence in performing some activities safely.

Compared with traditional structured exercise, the lifestyle-integrated approach appeared to offer greater flexibility and was considered more compatible with daily life. Some older adults appeared to adopt an outcome-oriented perspective, indicating that they would be more willing to continue if the programme led to noticeable functional benefits. This aligns with evidence that perceived benefits and increased confidence support physical activity participation among both older Chinese adults [29, 30] and older adults more generally [31]. Thus, helping participants recognise functional gains and providing early reinforcement may therefore support sustained engagement.

Although some studies have suggested that older adults may prefer individual rather than group-based exercise formats more generally [32], the preference for group-based, face-to-face delivery among older Chinese adults imply that such preferences may vary according to cultural and contextual influences. This aligns with existing literature on older Chinese adults and also highlights the motivational role of social support, peer interaction, and instructor feedback in physical activity participation [16, 33].

Moreover, preferences for shorter, more visual, and more conversational materials suggest that accessibility in this context depended not only on translation, but on how information was structured and communicated. This may be particularly relevant given evidence of limited literacy among older Chinese adults in Europe and the UK [16, 34], as well as in China [35]. In this context, concerns about paperwork appeared to extend beyond simple inconvenience. Although planning and recording tools are intended to support self-monitoring and habit formation [36], they were also perceived as a potential barrier to engagement. Healthcare partners further questioned the credibility of self-completed records, particularly where responses might be shaped by a desire to please the researcher, inconsistent recording, or difficulties understanding written content because of limited literacy. Similar concerns about documentation burden have been reported in previous lifestyle-integrated exercise studies, where documentation demands can reduce acceptability rather than support habit formation [6, 7, 37]. Together, these findings suggest that monitoring procedures should be simple, and culturally and linguistically accessible.

Responses to the activities suggest that acceptability was shaped not simply by objective difficulty, but by familiarity and confidence. Activities that feel like everyday routines or culturally familiar practices appeared easier to imagine as part of daily life, which may have increased their perceived relevance. In

contrast, movements that were less familiar or more physically demanding raised concerns about safety, discomfort, and capability. This suggests that perceived capability may be influenced as much by confidence and prior embodied experience as by physical function alone.

Confidence in performing activities appeared to influence perceived acceptability. Lower acceptability of some activities may reflect not only physical limitations, but also lower confidence in performing them safely. This may be partly related to concern about falling, which was commonly reported in this study and was also reflected in the Short FES-I findings, with 56% of participants reporting moderate concern and 22% high concern at baseline. Previous research has similarly shown that higher concern about falling is associated with reduced mobility and activity avoidance among older adults, which may contribute to hesitation towards more demanding activities [9, 38]. At the same time, the difference between older participants and healthcare partners is also noteworthy. While professionals perspective to falls prevention are often shaped by safety consideration and risk management [39], older adults may place greater importance on maintaining function, independence, and confidence in everyday life [40–42]. This highlights the importance of balancing safety considerations and confidence-building when designing fall prevention interventions. Given that exercise which challenges balance is among the most effective falls prevention strategies for community-dwelling older adults [43], rather than resolving this tension by removing more demanding activities, clearer progression and monitoring? may be a more appropriate response.

Strengths and limitations

This study has several strengths. It addressed an under-researched minority population and incorporated perspectives from both older adults and healthcare partners. Conducting data collection in participants' preferred languages enhanced inclusivity and enabled a more culturally nuanced understanding of participants' views. However, several limitations should be considered. The sample was predominantly female, which may have limited the diversity of perspectives captured. The use of purposive and snowball sampling may also have introduced selection bias and limited the transferability of the findings. Many participants were recruited through an existing community group setting and may therefore have been more socially motivated and less affected by barriers such as transport difficulties or caregiving responsibilities than more isolated older adults. This recruitment context may have influenced the preference for group-based formats observed in the study. Future research should include a broader range of participants, particularly men and more socially isolated older adults.

CONCLUSIONS

The aLiFE programme was generally perceived as feasible and acceptable among older Chinese adults and healthcare partners in the UK. Participants responded positively to the lifestyle-integrated concept, but their accounts also indicated that anticipated engagement was shaped by the accessibility of programme materials, delivery format, documentation requirements, and confidence in performing some activities safely. Together, these findings suggest that successful adaptation of aLiFE for this population

will depend not only on the programme concept itself, but also on how it is communicated, supported, and practically implemented.

IMPLICATIONS

The findings suggest that future adaptation of aLiFE for older Chinese adults in the UK should prioritise simpler and more visual materials, accessible Chinese-language communication, group-based face-to-face teaching, lower and more achievable starting levels for challenging activities, and less burdensome documentation procedures. Moreover, this study highlights the value of conducting qualitative research in participants' preferred language and generating feedback through direct experience of intervention activities when working with underrepresented older adult populations. Future research should examine whether these adaptations improve acceptability and support sustained participation among older Chinese adults in the UK. Future research should examine whether these adaptations improve acceptability and support sustained participation, particularly among more socially isolated older Chinese adults or those less connected to community organisations.

Abbreviations

aLiFE

Adapted Lifestyle-integrated Functional Exercise

British National (Overseas)

BNO

MRC

Medical Research Council

Short FES-I

Short Falls Efficacy Scale-International

Declarations

Authors' contributions

Writing the study protocol: LH, H.HH, CT; translating materials: LH, YY; transcription and translation focus groups and interviews: LH; data analysis: LH, YY, H.HH, CT; Writing original draft: LH; Editing: LH, H.HH, CT.

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Data availability

The datasets generated and/or analysed during the current study are not publicly available due to containing potentially identifiable qualitative data but are available from the corresponding author on reasonable request.

Clinical trial number:

Not applicable.

Ethics approval and consent to participate

Ethical approval was obtained from the University Research Ethics Committee of The University of Manchester [44] (UREC Review Reference: 2025-21643-39687). All participants received written information about the study and provided written informed consent prior to participation. Confidentiality and anonymity were assured throughout the research process. The study was conducted in accordance with relevant ethical guidelines and regulations, including the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

References

1. WHO. Falls. 2021 [cited 2026 9th April]; Available from: <https://www.who.int/news-room/fact-sheets/detail/falls>
2. GOV.UK. *Guidance Falls: applying All Our Health*. 2022 [cited 2026 9th April]; Available from: <https://www.gov.uk/government/publications/falls-applying-all-our-health/falls-applying-all-our-health>
3. Sherrington C, et al. Exercise for preventing falls in older people living in the community: an abridged Cochrane systematic review. *Br J Sports Med*. 2019;54(15):885–91.
4. Picorelli AMA, et al. Adherence to exercise programs for older people is influenced by program characteristics and personal factors: a systematic review. *J physiotherapy*. 2014;60(3):151–6.
5. Schwenk M et al. *The adapted Lifestyle-integrated Functional Exercose (aLiFE) programme for preventing functional decline in young seniors: development and initial evaluation*. *Gerontology*.

Forthcoming, 2019.

6. Hezel N, et al. The Lifestyle-integrated Functional Exercise (LiFE) program and its modifications: a narrative review. *German J Exerc Sport Res.* 2021;51(4):416–29.
7. Weber M, et al. Feasibility and effectiveness of intervention programmes integrating functional exercise into daily life of older adults: a systematic review. *Gerontology.* 2018;64(2):172–87.
8. Lishan Huang YY, Hawley-Hague H, Shi C, Tang Y, Todd C. Effectiveness and Feasibility of Lifestyle-integrated Functional Exercise (LiFE)- Based Interventions for Falls Prevention Among Community-based Older Adults - A Mixed- Methods Systematic Review. *BMC Public Health*, 2026 (Under reviewed).
9. Ellmers TJ et al. Does concern about falling predict future falls in older adults? A systematic review and meta-analysis. *Age Ageing*, 2025. 54(4).
10. *Ethnic group by age and sex, England and Wales: Census 2021.* 2023 [cited 2026 2nd June]; Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicgroupbyageandsexenglandandwales/census2021>
11. GOV.UK. *British National (Overseas) visa.* [cited 2024 9th June]; Available from: <https://www.gov.uk/british-national-overseas-bno-visa/your-family-members>
12. Hoodless S et al. *Implementation of Falls Management Exercise (FaME) falls prevention programme among community-dwelling older adults. A scoping review.* Under review.
13. GOV.UK. *Physical activity levels by ethnicity and age group. Ethnicity Facts and Figures.* 2024 [cited 2026 13th March]; Available from: <https://www.ethnicity-facts-figures.service.gov.uk/health/diet-and-exercise/physical-activity/latest/#by-ethnicity-and-gender>
14. Barrera M Jr, et al. Cultural adaptations of behavioral health interventions: a progress report. *J Consult Clin Psychol.* 2013;81(2):196.
15. Jang H, et al. Cultural influences on exercise participation and fall prevention: a systematic review and narrative synthesis. *Disabil Rehabil.* 2016;38(8):724–32.
16. Xu H et al. Ageing as older Chinese immigrants in Europe—a qualitative systematic literature review considering perspectives from older immigrants, relatives, and professionals. *Front Public Health*, 2025. Volume 13–2025.
17. Ciobanu RO, Hunter A. *Older migrants and (im) mobilities of ageing: An introduction.* *Population, Space and Place*, 2017. 23(5): p. e2075.
18. Alpers L-M. Distrust and patients in intercultural healthcare: A qualitative interview study. *Nurs Ethics.* 2018;25(3):313–23.
19. Pattillo M, et al. Racism against racialized migrants in healthcare in Europe: a scoping review. *Int J Equity Health.* 2023;22(1):201.
20. Skivington K et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*, 2021. 374.

21. GOV.UK. *Chinese ethnic group: facts and figures*. 2020 [cited 2024 10th May]; Available from: <https://www.ethnicity-facts-figures.service.gov.uk/summaries/chinese-ethnic-group/>
22. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. *Qual Health Res*. 2016;26(13):1753–60.
23. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods*. 2006;18(1):59–82.
24. Boulton E, et al. Attitudes towards adapted lifestyle-integrated functional exercise developed for 60–70-year-olds: perceptions of participants and trainers. *Gerontology*. 2019;65(6):599–609.
25. Kempen GJIM, et al. The Short FES-I: a shortened version of the falls efficacy scale-international to assess fear of falling. *Age Ageing*. 2007;37(1):45–50.
26. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Res Psychol*. 2006;3(2):77–101.
27. Braun V, Clarke V. Reflecting on reflexive thematic analysis. *Qualitative Res sport Exerc health*. 2019;11(4):589–97.
28. Lumivero. NVivo (Version 15) [Computer software]. 2025; Available from: <https://lumivero.com/products/nvivo/>
29. Katigbak C, et al. Older Chinese Americans' perspectives on physical activity: a mixed methods study. *J Appl Gerontol*. 2020;39(5):472–80.
30. You E, et al. Ethnic differences in barriers and enablers to physical activity among older adults. *Front Public Health*. 2021;9:691851.
31. Devereux-Fitzgerald A, et al. The acceptability of physical activity interventions to older adults: A systematic review and meta-synthesis. *Soc Sci Med*. 2016;158:14–23.
32. Pillay J, et al. Falls prevention interventions for community-dwelling older adults: systematic review and meta-analysis of benefits, harms, and patient values and preferences. *Syst Reviews*. 2024;13(1):289.
33. Yang Y, et al. How can we encourage engagement in physical activity among older adults in Chinese diasporas? Mixed methods evidence synthesis using the COM-B model. *Eur Rev Aging Phys Activity*. 2025;22(1):22.
34. Huang S-L, Spurgeon A. The Mental Health of Chinese Immigrants in Birmingham, UK. *Ethn Health*. 2006;11(4):365–87.
35. Li C, et al. Do Health Information Sources Influence Health Literacy among Older Adults: A Cross-Sectional Study in the Urban Areas of Western China. *Int J Environ Res Public Health*. 2022;19(20):13106.
36. Boulton E, et al. Implementing behaviour change theory and techniques to increase physical activity and prevent functional decline among adults aged 61–70: the PreventIT project. *Prog Cardiovasc Dis*. 2019;62(2):147–56.

37. Ounjaichon S. Developing the Thai lifestyle-integrated functional exercise (TLiFE) programme: an intervention to prevent falls among older adults in Thailand. Division of Nursing, Midwifery & Social Work. University of Manchester; 2020.
38. McGarrigle L et al. A systematic review and meta-analysis of the measurement properties of concerns-about-falling instruments in older people and people at increased risk of falls. *Age Ageing*, 2023. 52(5).
39. Heng H, et al. Healthcare professional perspectives on barriers and enablers to falls prevention education: A qualitative study. *PLoS ONE*. 2022;17(4):e0266797.
40. Stevens JA, Sleet DA, Rubenstein LZ. The Influence of Older Adults' Beliefs and Attitudes on Adopting Fall Prevention Behaviors. *Am J Lifestyle Med*. 2018;12(4):324–30.
41. Yardley L, et al. Recommendations for promoting the engagement of older people in activities to prevent falls. *BMJ Qual Saf*. 2007;16(3):230–4.
42. McMahon S, Talley KM, Wyman JF. Older people's perspectives on fall risk and fall prevention programs: a literature review. *Int J Older People Nurs*. 2011;6(4):289–98.
43. Sibley KM et al. Factors influencing older adult community fall prevention exercise implementation: a scoping review. *Age Ageing*, 2024. 53(8).
44. (ERM) ERM. 2026 2026 [cited 2024; 2.16.3.0:[Available from: <https://submission-ethicalreview.manchester.ac.uk/>

Figures

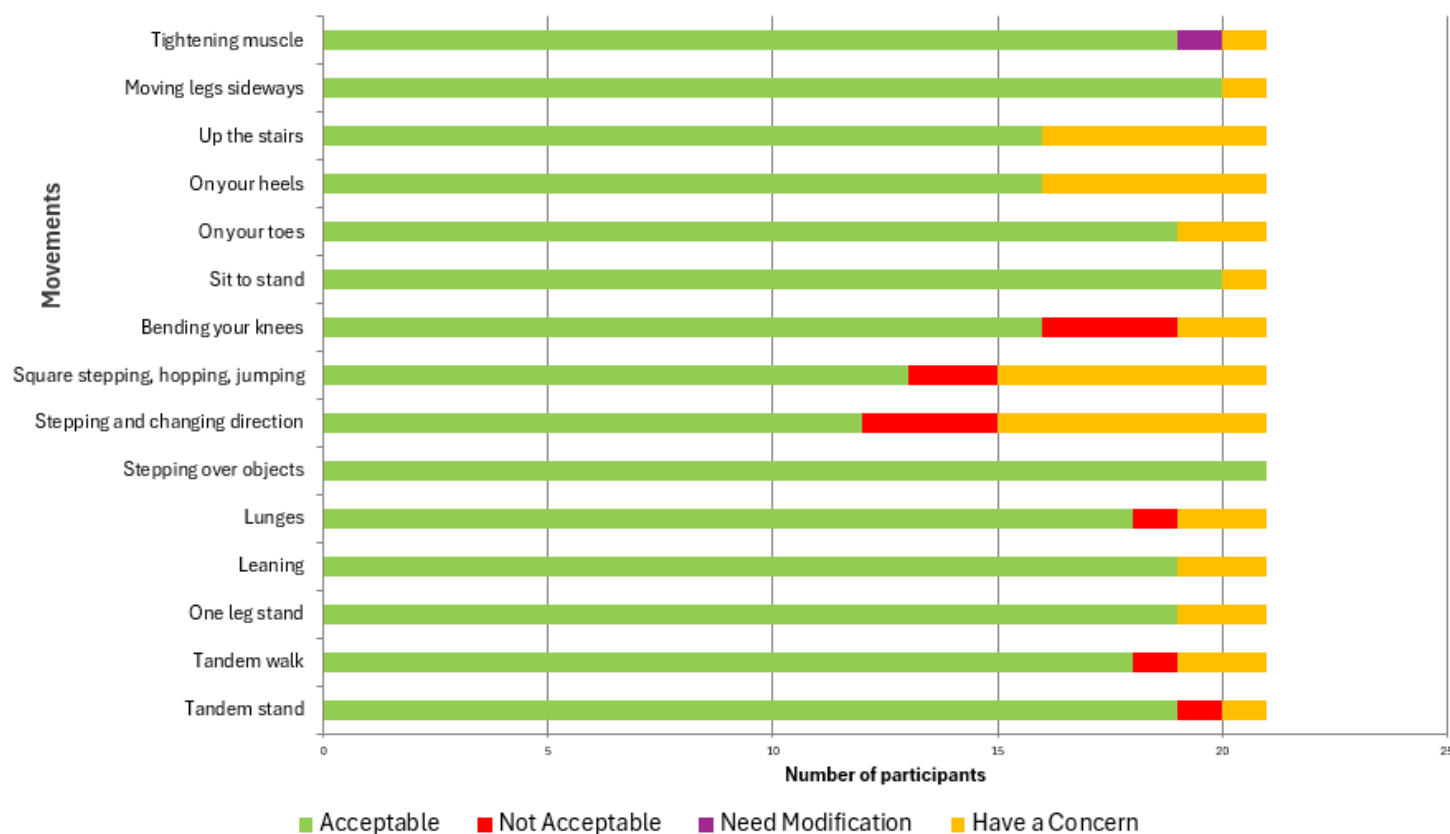


Figure 1

Rating of Acceptability of aLiFE Activities

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