

The feasibility of delivering evidence-based fall prevention exercise in the voluntary sector – a mixed methods study

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Introduction

- Highly challenging, regular strength and balance exercise classes (SBE) reduces fall risk.
- There are few options for long-term continuation of exercise which means falls risk may increase once the person stops SBE.
- Effective SBE must include highly challenging balance exercise, but this can expose exercisers to increased risk of falls if not expertly prescribed.
- SBE could be delivered by the voluntary sector, but care is needed to ensure good fidelity, so it is safe and effective.
- The feasibility of delivering evidence-based SBE outside the governance of health services is unclear.

Study aim

To evaluate the fidelity, feasibility and acceptability of the S&S exercise group.

Methods

The research was undertaken by pre-registration physiotherapy students at King’s College London.

- Baseline measures and adherence were collected from the records of all who commenced S&S.
- Two classes were observed using a standardised fidelity checklist.
- Semi-structured interviews and focus groups were undertaken with class participants, a previous participant, the exercise instructor and lead volunteer.

Results – interviews and focus groups

Four themes emerged from thematic analysis of all the interviews and focus groups:

Theme 1

S&S was associated with a range of benefits to health and wellbeing that contributed to participant uptake, adherence and to staff satisfaction.

“I’ve got back a great deal of, well, you know, I can walk here. I can go for a walk now.” (FG 1 participant)
“I usually feel it afterwards ... I felt that my knees particularly were going the way that my hip went, and I think that’s reversed actually.” (FG2 participant)
“It’s become a thing I look forward to and enjoy” (FG2 participant)
“It’s really enjoyable thing to be involved with.” (Volunteer lead)
“it’s helping them. That’s. Yeah, that’s been just a joy” (Exercise instructor)

Theme 2

Limiting class size is necessary to maintain fidelity and safety.

“You, should be able to manage the whole lot in one class, hence, that’s why you want the numbers sort of low, so you’re able to do that.” (Exercise Instructor)
“(EI) watches what we’re doing and I, I normally do the wrong thing or, or she sees I’m having a problem and so she always, she, you know comes across and says... explains what I should be doing or, or if it’s painful do something else, you see?” (FG2 participant)

Theme 3

The social element of the class was a key driver in participation.

“it’s often quite hard to meet new people, and um therefore it’s really nice to have a venue and an activity that you do with other people.” (FG2 participant)
“they’re all different, all come from different walks of life, but the one common thing they have is this class and you can see they are all connected and they do look out for each other” (Exercise Instructor)

Theme 4

The participants of S&S had high levels of self-efficacy and motivation to participate in exercise.

“I actually had osteoporosis - well, I got myself through that. I gradually thought I can’t just be house bound.” (FG1 participant)
“I’ve always exercised all my life, so it’s sort of second nature to do something.” (FG2 participant)
“I have tried really, really hard to get other people to come” (FG2 participant)

Conclusions

- Delivering SBE via the voluntary sector is feasible and can be delivered with good fidelity.
- The provision tends to attract people who have high levels of self-efficacy and motivation to exercise.
- Next steps will be to evaluate outcome measure change, to explore scaling up in the locality and how to widen access.

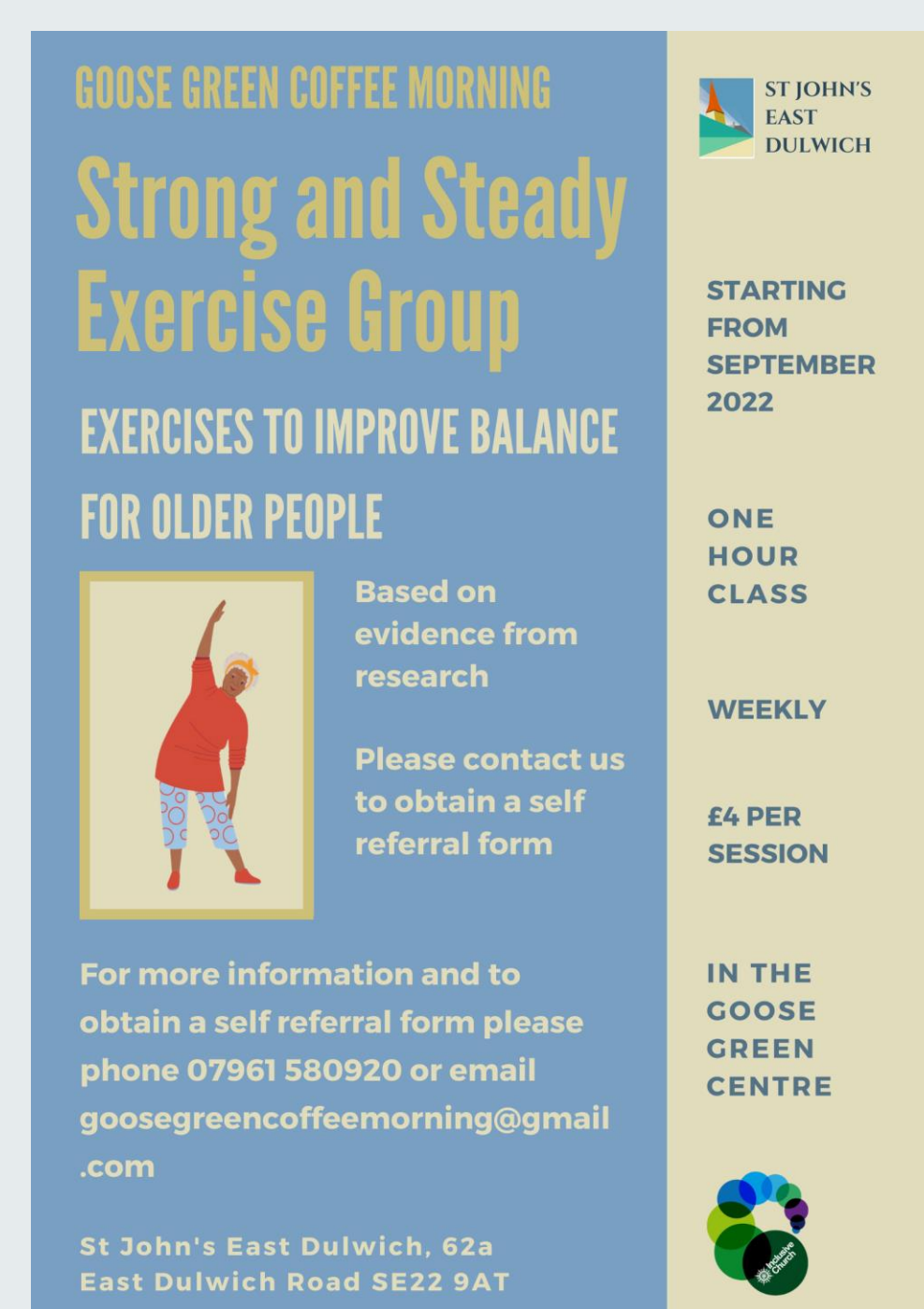
The study had ethical approval from King’s College London low risk ethics committee.

Results

- 24 participants with a mean age of 77 (59-95), 63% female, self-referred to S&S.
- Baseline measures, collected in 100% of assessments, (timed up and go, 60-second sit-to-stand and four-step balance scale) as well as falls efficacy (FES-I) indicated performance slightly worse than age-matched normative data – see table 1.
- Three participants dropped out (one died) and adherence was 67%.
- Two falls without associated injury were recorded across 100 classes.
- Fidelity in both observed classes was good (mean score 21/24).

Table 1.	Timed up and go	60 sec. STS	4 step balance	FES-I (short)
Mean (SD)	12.9 (6.4) sec.	20 (6.69)	34 (7.9) sec. ¹	10.6 (4.0)
Min	7.2 sec.	7	18 sec.	7
Max	37.7 sec.	40	40 sec.	20
Norm value: mean age 77	10 sec ²	10-11 in 30 sec. ³	SLS for 11-14 sec. ²	9.4 ⁴

1. Represents progress to each new balance step: 10 secs=standing feet together 10 sec., 20=semi-tandem standing 10sec, 30=tandem standing 10 sec. and 40: single leg stand 10 sec. 34 sec = can tandem stand for 4 seconds.
 2. <https://doi.org/10.1093/ageing/afad054>
 3. <https://doi.org/10.1097/JNR.0bo13e3181999d4c>
 4. <https://doi.org/10.1093/ageing/afp225>



Goose Green Strong and Steady Class

- Set up in 2022 alongside an existing voluntary-led coffee morning, which was successful in engaging with older people and addressing loneliness and isolation.
- Standard operating procedure produced, and funding secured from local authority grant (and small fee for each class).
- Level 4 Postural stability instructor recruited following interview and DBS check, and contract of services signed.
- Support from local NHS strength and balance leadership to share risk assessments, participant educational material and use of the same outcome measures.
- Advertised with posters, flyers in GP practices, the coffee morning and same church, met with local social prescribers and listed in exit options for NHS classes