

Community Based Cool Water Aqua-therapy for People with MS

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Introduction

People with Multiple Sclerosis (PwMS) who have an Expanded Disability Status Scale (EDSS) >5 resist challenging their balance. Aqua therapy utilises the buoyancy and resistance properties of water. Access to hydrotherapy (34^o) is limited and many PwMS report excessive fatigue at this temperature although exercising in water is beneficial. PwMS are commonly advised to go swimming but rarely go independently. Therefore, provision of appropriate exercise training programme in water may be beneficial to maintain and improve function during land based everyday activities¹.

Aims

- To develop a new service delivered at a local leisure centre to enable PwMS to exercise safely in cooler water (29^o) under the supervision of Specialist Physiotherapist and assisting staff.
- To enable participants to continue to attend and independently exercise at a suitable pool to self-manage their long-term condition.

Methods

Referrals were received from the Specialist MS Physiotherapy service for people who are ambulant EDSS 6-7.5 (i.e. mobile with uni or bilateral walking aid) and experiencing balance problems. Inclusion criteria: Medically stable, Continent (bladder and bowel), able to follow instructions, able to attend ≥ 4 sessions.

Programme

Suitable participants were invited to attend a 5-week course of 1 hour/week aqua therapy, maximum group size 8. The sessions involved warm up (swim or walk), 16 circuit exercises in four bases working on core stability, balance, upper and lower limb strengthening and cardiovascular fitness (Fig 1a,1b). This was followed by a group activity, such as volleyball to work on multi-tasking balance (Fig 1c). The sessions were run by an MS Specialist Physiotherapist, gym and swim instructors.

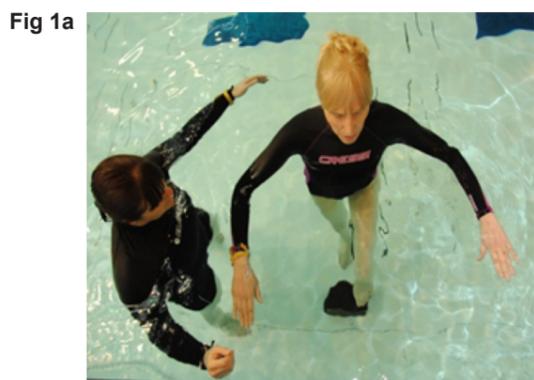


Fig 1c



Outcome measures (see table below) were taken 1 week prior to starting and 1 week after completing the course.

Outcome measure	Description
Berg Balance scale (BBS) ²	14 test items marked as 0 (cannot do) to 4 (normal performance).
Timed 10m walk (10MTW) ²	Time (m/sec) and cadence
Timed Get up and Go test (TUG) ²	Dynamic balance. Sit to stand, walk 3m turn/return/sit
ABC Balance confidence scale ABC) ²	Self-reported balance capability in 16 daily activities.
Multiple Sclerosis Impact Scale-29 (MSIS-29) ³	Impact score physiological/psychological

Participants were invited to continue to attend after the course to independently exercise.

Results

Of the first 18 subjects recruited 15 completed the course, 1 declined due to anxiety and 2 had relapses of their MS (See Table 2 below, demographic data).

Subjects Recruited	Age	sex	EDSS (No)	Aid (No Used)
18	Mean 48 Range 27-65	11 F 7M	6.0 (15) 6.5 (2) 7.0 (1)	Unilateral (13) Bilateral (3) Rollator (2)

Table 3 Attendance and follow-on activity.

No. Sessions Attended	Follow-on Sessions Aqua	Follow-on Alternative Exercise
5 sessions 53%	53% (n=8)	13% (n=2)
4 sessions 47%		

Complete outcome data was obtained from 13 participants and preliminary results showed improvement in BBS (p=0.023), TUG, 10MTW and MSIS-29. Eight reduced use of walking aid. No change was observed in ABC confidence scale.

"The overall benefit of continuing aqua therapy is evident in my general well-being as well as my mobility, thus reducing in some measure my call on other NHS services."

"Aqua Therapy is one of the only ways for me to do any type of cardio exercise"

"Since I've joined the class it's helped my confidence and mobility. Even when I'm having a bad patch I can still attend the class and do the best I can which is so much better than nothing."

Conclusions

- Aquatic exercise in a leisure centre pool was well received and resulted in functional improvements.
- Although not reflected in participants' perception of balance, 62% reduced their use of walking aids.
- Increased confidence accessing the pool was reported.
- 66% continued with exercise after course completion.
- A service evaluation is now indicated.
- A research study is indicated.

References

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Charitable funds from Southmead Hospital charity and sponsorship from Gloucestershire County Cricket Club were obtained to enable this new service to be setup and evaluated