| **Supplementary Table 1: Intervention details** |  |
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|  | Intervention participantsN=22 |
| Total number of physical activity sessions attended by participants  | 1 | 2 (9%) |
| 2 | 1 (4.5%) |
| 3 | 0 (-) |
| 4 | 1 (4.5%) |
| 5 | 1 (4.5%) |
| 6 | 1 (4.5%) |
| 7 | 0 (-) |
| 8 | 16 (73%) |
| Number of telephone calls received (total) | 1 | 2 (9%) |
| 2 | 1 (4.5%) |
| 3 | 1 (4.5%) |
| 4 | 0 (-) |
| 5 | 0 (-) |
| 6 | 0 (-) |
| 7 | 0 (-) |
| 8 | 0 (-) |
| 9 | 2 (9%) |
| 10 | 1 (4.5%) |
| 11 | 1 (4.5%) |
| 12 | 14 (64%) |

Note: The total number of physical activity sessions attended and support telephone calls received by participants in the intervention arm, irrespective of consecutive weekly schedule.

| **Supplementary Table 2: PROM completion rates** |
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|  | **Baseline (n=43)** | **12 Weeks (n=42)** | **24 Weeks (n=41)** | **52 Weeks (n=40)** |
| Received | Complete | PartiallyComplete | Received | Complete | PartiallyComplete | Received | Complete | PartiallyComplete | Received | Complete | PartiallyComplete |
| MFI-20 | 41 | 40 (98%) | 1 (2%) | 39 | 38 (97%) | 1 (3%) | 37 | 33 (89%) | 4 (11%) | 33 | 28 (85%) | 5 (15%) |
| SF-36 | 42 | 35 (83%) | 7 (17%) | 41 | 36 (88%) | 5 (12%) | 38 | 34 (89%) | 4 (11%) | 33 | 30 (91%) | 3 (9%) |
| BRAF-MDQ | 41 | 35 (85%) | 6 (15%) | 39 | 28 (72%) | 11 (28%) | 38 | 23 (61%) | 15 (39%) | 33  | 28 (85%) | 5 (15%) |
| AAV-PRO | 41 | 38 (93%) | 3 (7%) | 38 | 38 (100%) | 0 (-) | 38 | 37 (97%) | 1 (3%) | 33 | 30 (91%) | 3 (9%) |
| HADS | 42 | 40 (95%) | 2 (5%) | 39 | 36 (92%) | 3 (8%) | 37 | 37 (100%) | 0 (-) | 33 | 32 (97%) | 1 (3%) |
| EQ5D (3 level) | 24 | 23 (96%) | 1 (4%) | 20 | 20 (100%) | 0 (-) | 23 | 23 (100%) | 0 (-) | - | - | - |
| EQ5D (5 level) | 19  | 19 (100%) | 0 (-) | 21 | 21 (100%) | 0 (-) | 15  | 15 (100%) | 0 (-) | 32 | 30 (94%) | 2 (6%) |
| COPE | 42 | 32 (76%) | 10 (24%) | 38 | 22 (58%) | 16 (42%) | 36 | 28 (78%) | 8 (22%) | 32 | 29 (91%) | 3 (9%) |
| PSQI | 42 | 38 (90%) | 4 (10%) | 41 | 36 (88%) | 5 (12%) | 38 | 30 (79%) | 8 (21%) | 33  | 30 (91%) | 3 (9%) |
| IPAQ | 41 | 24 (59%) | 17 (41%) | 41 | 29 (71%) | 12 (29%) | 38 | 29 (76%) | 9 (24%) | 33  | 28 (85%) | 5 (15%) |
| PACES | - | - | - | - | - | - | - | - | - | 33 | 33 (100%) | 0 (-) |
| OEE | - | - | - | - | - | - | - | - | - | 33 | 32 (97%) | 1 (3%) |
| Confidence | - | - | - | - | - | - | - | - | - | 33 | 33 (100%) | 0 (-) |

Abbreviations: MFI-20, Multi-dimension Fatigue Index-20; SF-36, Short-Form 36; BRAF-MDQ, Bristol Rheumatology Arthritis Fatigue Multidimensional Questionnaire; AAV-PRO, ANCA-Associated Vasculitis Patient-reported Outcome Questionnaire; HADS, Hospital Anxiety and Depression Scale; EQ5D, EuroQol EQ5D; PSQI, Pittsburgh Sleep Quality Index; IPAQ, International Physical Activity Questionnaire; PACES, Physical Activity Enjoyment Scale; OEE, Outcome Expectations for Exercise.

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| **Supplementary Table 3: Specific patient comments on their experience of the study** |
| Topic | Comment |
| Recruitment | I needed someone to encourage me to do what I wanted to. I had been wanting to play squash and do something more active, and I needed someone to push me and guide me. I had no choice, I’ve got to go and take part, because otherwise it’s too easy to say I won’t bother today. So I was glad that I got accepted on it.” Participant 01, Male, 5yrs diagnosed, Intervention (arm). |
| “First of all I thought another trip over here so many times, and I thought yeah but if this is going to help, not just me, for anybody, and all the support I have had from the vasculitis team… I thought yeah I will give something back, and I’ll say yes.” P07 - Female, 3 yrs diagnosed, Intervention. |
| “… basically work said no, because it’s not as if I could nip out for an hour and be back, it would be probably a whole day more or less, because it takes me an hour and a quarter to drive to Birmingham...” Non-participant (NP) 01 - Female, 4 yrs diagnosed. |
| “….Yeah it might well have done. It might have helped I think if it’s closer to me, yeah for sure, I am sure that would have made a difference rather than driving three hours in a day to get there and back would have… especially if you’re going to do some exercise while you are there etc. But definitely if it wasn’t weekly it would have perhaps been more useful” NP02 - Female, 14 yrs diagnosed. |
| “…I looked at the information, saw that this was about fatigue and at that point I was pretty well back to where I am at the moment. The word ‘fatigue’, I wouldn’t have described myself as having ‘fatigue’” NP08 - Male, 6 yrs diagnosed. |
| Experience of participation | “So it’s difficult for me because I sit down for 12 hours literally, I was trying to find places in the office to try and do some exercises, so I had exercises designated for home and then for in the office, so I was trying to combine both. But it doesn’t really stick at work to be honest, and obviously by the time I’ve woke up and travelled to work and then travelled back and had something to eat that’s like a 14 hour day straight away. So it has been difficult...” P01 - Male, 5yrs diagnosed, Intervention. |
| “Since they gave me this I do tend to walk more as normally, like there’s a bus stop right outside the flat and I go and get on the bus and here with my pass, or I get in the car and… but now I tend to walk more… I am more conscious of what I do in a day, and I do try to do the 10,000 steps recommended, and if I’m going out dancing like I was the weekend I think Friday I done something like 18,000 steps, on the Saturday I done 21,000, so I done pretty good!” P02 – Male, 4 yrs diagnosed, Intervention. |
| Motivation for continued participation | “I just think having to come here once a week to see \_\_\_\_\_\_\_ it was motivation. She gave you the set of exercises to do, you got on the treadmill, and she gave you a list of exercises to do, she gave you your targets for walking, and it was all motivation, whereas if you hadn’t had that you just go and you think ‘Shall I go up today?’” P07 - Female, 3 yrs diagnosed, Intervention. |
| Benefits of telephone support | “If you had issues you could talk through it over the phone, so basically like I said I modified my squats and initially I didn’t tell her that, but she said do this and I said, “Well I’ve done this actually,” said, “Well actually maybe that’s the better option.” So she’s very open to suggestions, and she’s very good at giving you suggestions.” P01 - Male, 5yrs diagnosed, Intervention. |
| Benefits of participation | “To think I couldn’t walk up from here to there without puffing. My neighbour used to call me Darth Vader, but I was like that, I was really breathless, but after a few weeks of doing this exercise all of a sudden I think ‘Hang on I haven’t gasped much today!’ so it has helped my chest, because that’s where my weakness is, the GPA, it mostly affects my lungs, so that is so improved, it’s brilliant!” P03 – Female, 14 yrs diagnosed, Intervention. |
| “I’ve got to admit since this programme I have felt a lot better, and I think it’s because you realise how much you wasn’t doing, that you just sit back and think I can’t do it, I’m tired, whereas because you have gone through this programme you think no don’t think like that, get up, get your weights out, get your stretch things and do some exercises…” P07 - Female, 3 yrs diagnosed, Intervention. |
| “it’s certainly helped, just from where I started to two months later where I finished I was really quite proud of how it went. I’m able to do almost everything other than deal with grandchildren [laughs]…I just feel that I can live my life currently and try and achieve most things that I set out to do. I can mow the lawn now and garden and things like that.” P06 – Male, 5 yrs, Intervention. |
| Acceptability of the Fitbit activity tracker device | “I do actually look at it on a fairly regular basis. I don’t know much about it perhaps, but I do check it out every night, even though it doesn’t matter anymore because nobody is checking it - I am! It’s part of the motivational thing.” P05 – Male, 3 years, Intervention. |