

## BACKGROUND

Atrial fibrillation (AF) is a common cardiac arrhythmia, associated with debilitating symptoms and a sharp decrease in health-related quality of life (HRQoL) (1). People with AF often have increased multimorbidity, with an average of five additional comorbidities that exacerbate AF symptoms (2). In the UK, AF is estimated to account for up to 4.27% of total NHS expenditure by 2040 (3).

Current treatments for AF do not always provide symptomatic relief, and are associated with risks and adverse responses (4). Complementary therapies may be able to address a broad range of therapeutic targets, and support a positive change in lifestyle behaviours (5, 6).

This case series was nested within a randomised controlled feasibility study in preparation for a future large-scale trial of acupuncture and nutritional therapy for AF (7).

## AIM

This case series aimed to understand patients' experience and the perceived effects of acupuncture and nutritional therapy (NT) for symptoms and HRQoL in AF.

## METHODS

Six participants (three for each therapy) were purposively selected from the overall feasibility study cohort, following a maximum variation sampling strategy across age, gender, duration of AF diagnosis, and previous experience of complementary therapies.

Participants completed questionnaires and semi-structured interviews at baseline and an end-of-treatment 12-week follow-up. They were asked about their experience of therapy, and its perceived effects on AF symptoms and HRQoL. Questionnaires incorporated the Atrial Fibrillation Effect on Quality of Life (AFEQT) scale (8), rating both symptom severity and HRQoL.

Data analysis used reflexive thematic analysis (9) and descriptive statistics, and synthesised using joint display tables (10).

This study was nested within a pragmatic trial; all practitioners followed their usual scope of practice, formulating individualised treatments responding to each participant's needs, including lifestyle advice and support for behaviour change.

Acupuncture participants attended up to eight in-person treatment sessions of average 64 minutes' duration, at intervals of average 7.3 days. NT participants attended up to three online consultations of average 71 minutes' duration, at intervals of average 5.8 weeks.

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## CASE INFORMATION

Participants' mean age was  $64.6 \pm 3.8$  years, and evenly divided between male and female; all participants were of white British ethnicity, reflecting the local population. Average length of AF was  $42.8 \pm 24.0$  months. Participants had an average  $1.2 \pm 0.1$  comorbidities alongside AF, and were taking an average of  $3.8 \pm 1.9$  prescribed medications.

## RESULTS

In interviews, participants described positive effects of therapy on symptoms and quality of life in AF, together with a range of additional symptoms, including bowel irregularity, weight, sleep, energy, sciatica, overall wellbeing and ability to relax. Participants also perceived a range of personally meaningful effects of both therapies (see Figure 1). A range of minor, self-limiting adverse reactions was experienced, including minor bruising, fatigue and headache; for one participant, this affected acceptability of the therapy.

My gut in itself is more settled... which has quite a big impact on my day-to-day life. Especially at work... and that was becoming a real worry for me (P272, NT)

I thought I'd never get on a plane again... [but] I've just come back from a fortnight's holiday... and I picked up my grandchildren and carried them round with me all the time... and I never thought about it once (P156, Acu)

Figure 1: Personally meaningful effects of acupuncture and NT

Mean AFEQT scores showed positive changes in symptoms and HRQoL between baseline and follow-up for the six participants (Figure 2).

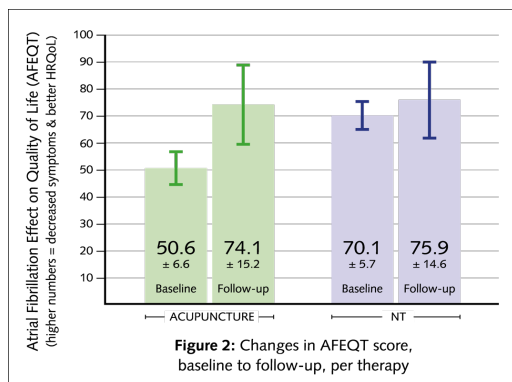


Figure 2: Changes in AFEQT score, baseline to follow-up, per therapy

## DISCUSSION

Participants' perception of **positive effects of therapy** (and the significant personally meaningful effects resulting from positive effects of therapy) outweighed all negative aspects of therapy; participants who perceived positive effects of therapy found the therapy highly acceptable. Negative aspects included minor harms and logistical issues such as, for the Acupuncture participants, travelling time and associated stress of travel, or for the Nutritional Therapy participants, the costs and effort of dietary change. One participant perceived negative effects of the therapy on overall quality of life (muscle fatigue and a reduced enjoyment of mealtimes (P142)); this participant did report improvements in AF symptoms including breathlessness and exercise tolerance, but felt this did not compensate for the perceived negative effects of nutritional therapy on overall quality of life.

Participant adherence to lifestyle advice appeared to be closely related to the **patient/practitioner relationship**; where participants perceived a good relationship with their practitioner, they felt more motivated to adhere to lifestyle advice (including dietary change in the NT group). As adherence to behaviour change is central to NT's effectiveness, the patient/practitioner relationship was therefore a key factor in therapy effect. Notably, adherence to lifestyle advice was also closely linked to perception of positive effects of therapy.

Acupuncture participants reported a **46.6% improvement** on baseline AFEQT scores, while NT participants reported a smaller improvement of 8.2%. The Acupuncture group's improvement compares favourably with trials of conventional treatments for AF, in which treatment groups measured at baseline and a 12-month follow-up showed within-group improvements of 31.3% for catheter ablation (11) and 21.8% for electrical cardioversion (12). In this case series, a sample of  $n=3$  per group, measured at 12 weeks, is unlikely to be indicative of the true effect of either therapy. However, coupled with qualitative analysis, the case series shows that participants perceived largely positive effects of their therapy for AF symptoms and quality of life, and other symptoms.

## CONCLUSION

Participants' experience of acupuncture or nutritional therapy was largely positive for symptoms and health-related quality of life in atrial fibrillation. Therapies were also perceived to have a positive effect on a range of additional health concerns, and these effects also improved overall quality of life.

Future large-scale trials may be justified to investigate the hypothesis that acupuncture and nutritional therapy – as less invasive and lower-risk than conventional treatments – may benefit symptoms and quality of life in atrial fibrillation.

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