Action Potential Simulation (APS) Therapy for pain in people with MS; report on a two year pilot study

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result of APS Therapy treatment, resulting in improved wellbeing.

pain, needed long term treatment to retain benefits, and have gone on to

For this exploratory pilot study, there was no control group, and many

possible variables. Data was collected in the working clinic, by staff and

The introduction of other new therapies or treatments (eg physiotherapy,

medication changes) was avoided where possible during the trial period,

The mode of action of APS Therapy is not fully understood. It has been

inflammatory products is assisted, providing relief of nociceptive pain⁶.

Considering neuropathic pain, release of neurotransmitters is known to be

stimulated by the electrical discharge of action potentials along nerve cells,

and voltage gated ion channels remain a key target for pharmaceuticals. In

MS, the normal conduction of action potentials is detrimentally affected by

the loss of myelin. APS Therapy replicates the passage of action potentials;

this may explain why some people with MS experience particular benefits.

postulated that by applying external action potentials, the removal of

(except for the reduction or withdrawal of analgesics), but not banned.

33 participants were able to reduce or withdraw from analgesic medication as a

33 participants (not necessarily the same ones!), predominately with neuropathic





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Introduction

Methods

examines data kept for the duration.

progressive form, and 3 did not have MS.

People with MS commonly suffer from pain. Overall prevalence is 63%,¹ and up to 80% experience significant pain during the disease course.² Neuropathic pain in particular is often resistant to treatment, or hard to resolve due to the unwanted side-effects of most of the appropriate drugs.³ Electrotherapies can contribute to the management of pain in MS.

People who presented in the MS nurse's clinic with pain were screened for

This involved using an APS Therapy micro-current machine, 3 x a week, for

4 x back to back 8 minute electrode placements. (=40 mins approx) After

assistance; this was given by volunteers, staff, or their informal carers.

'worst' level, prior, and at week 8. In year 2, we added the Brief Pain

teaching, around 70% were self-managing, and 30% of people required full

Pain was measured used the Visual Analogue Scale (VAS) for 'usual' and

Inventory (BPI) and Pittsburgh Sleep Inventory, however, this study only

70 people began the study, and 60 went on to complete, treating 94 different

pains. From this sample, 48 were women, and 12 men. The average age was

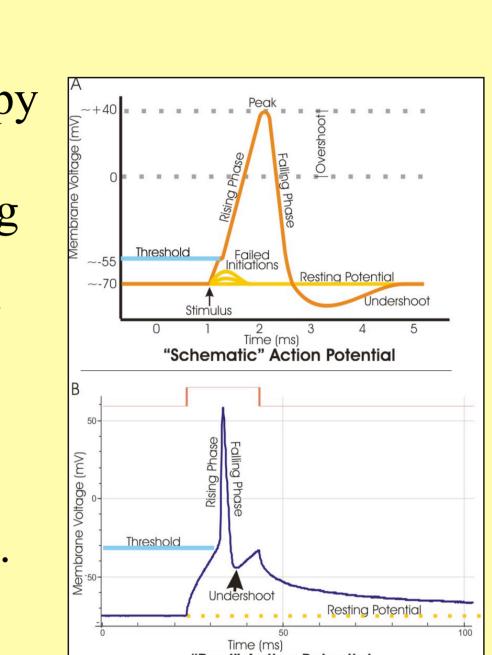
52 for women, 51 for men. 17 people had relapsing-remitting MS, 40 had a

suitability and offered the chance to participate in an 8 week trial.

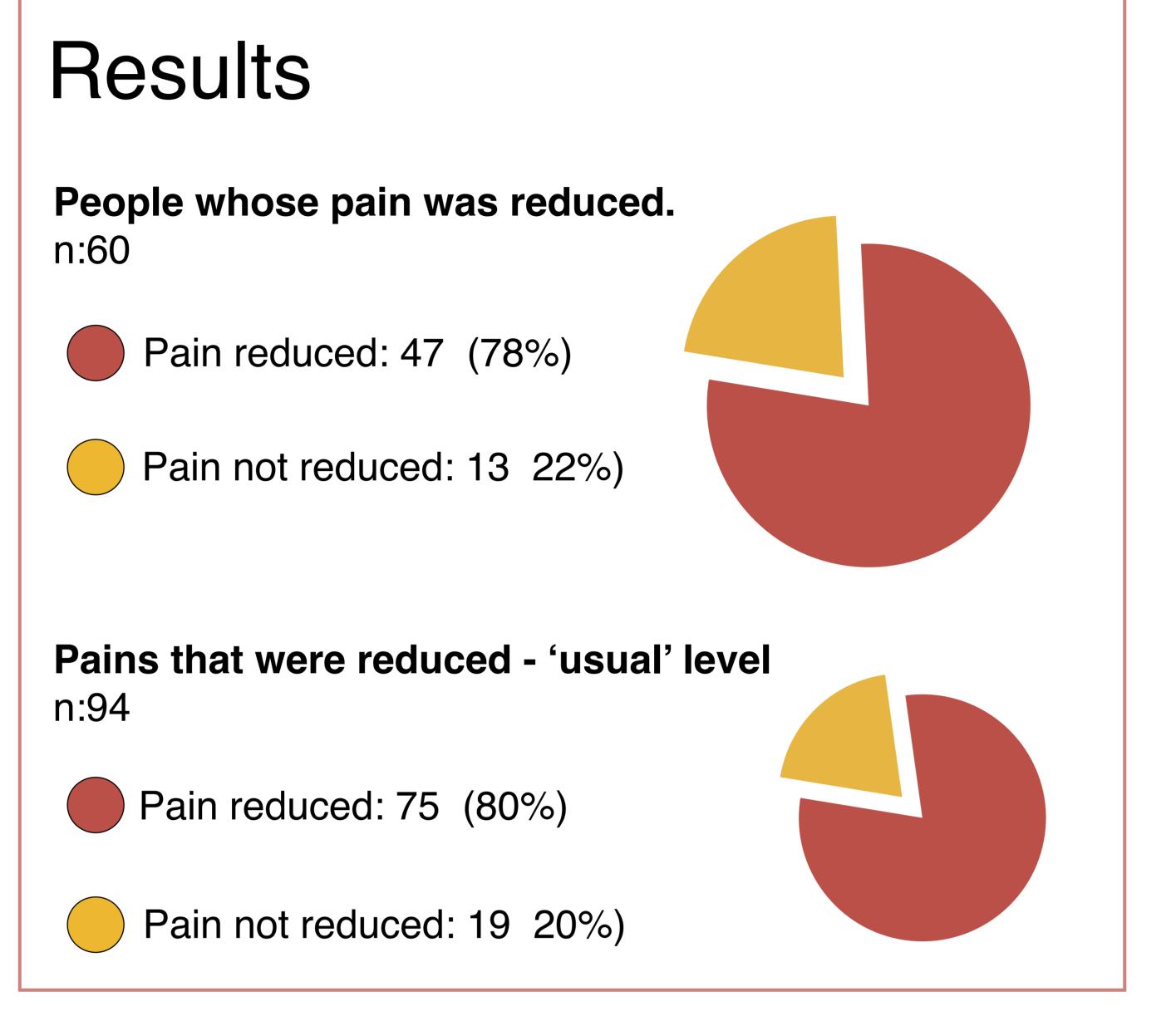
We heard of some exceptional case-studies using the micro-current Action Potential Simulation (APS) Therapy

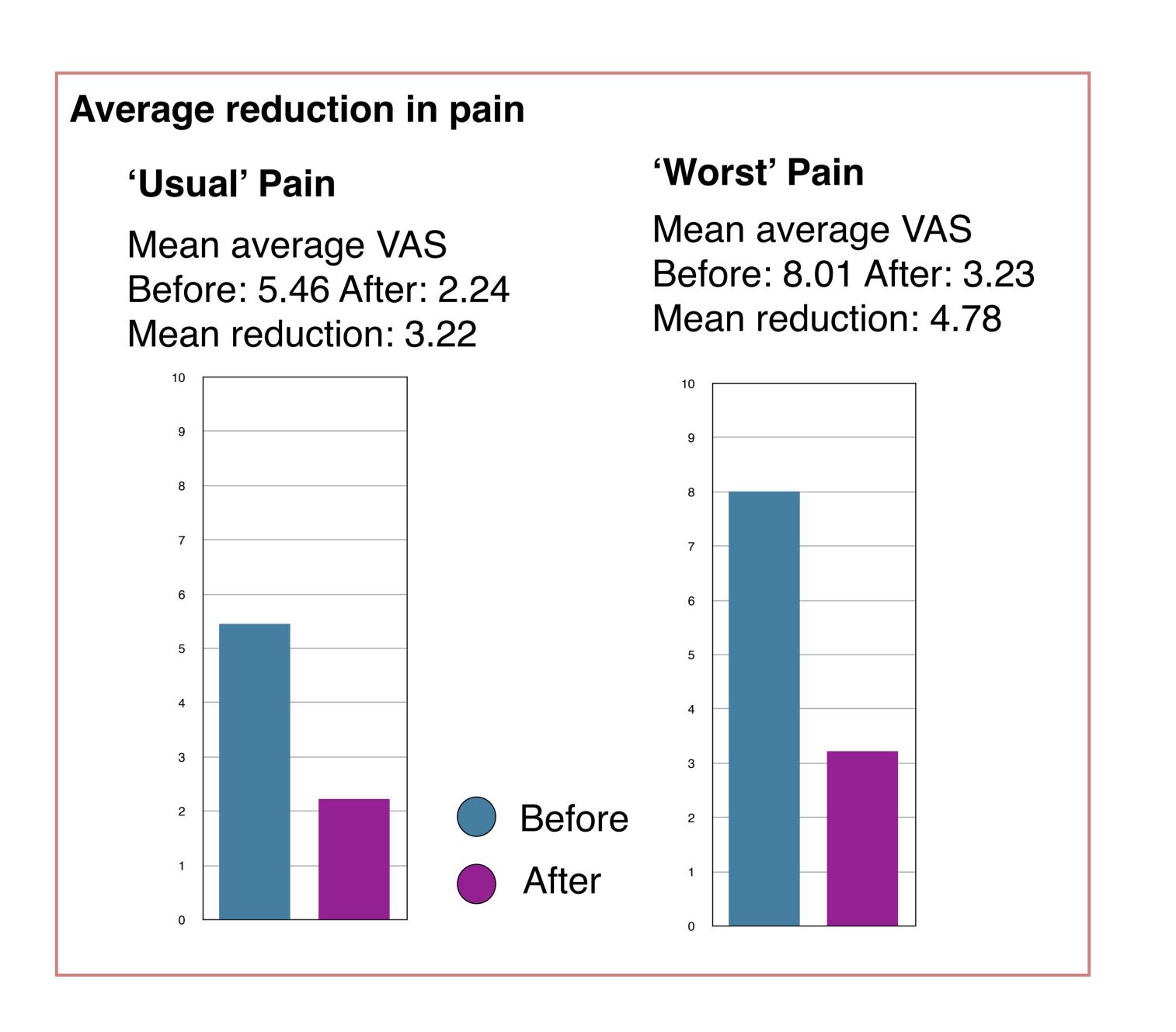
APS Therapy simulates the discharge of electricity along a cell, known as an 'action potential' for therapeutic effect, primarily pain relief. Despite literature review of over 50 papers showing promise in pain relief and enhanced healing by micro-current⁵,

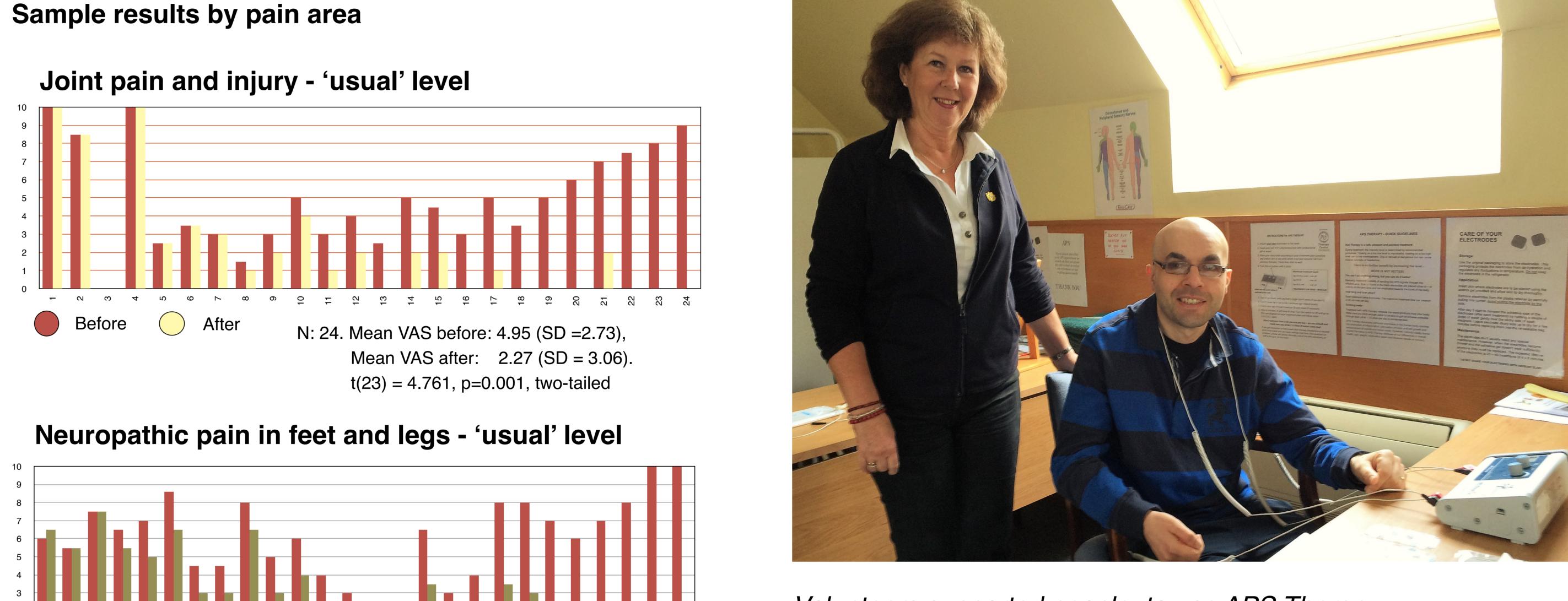
published research on APS Therapy for pain in MS was not available; for this reason, this study was carried out.



Results People whose pain was reduced. Pain reduced: 47 (78%) Pain not reduced: 13 22%) Pains that were reduced - 'usual' level Pain reduced: 75 (80%) Pain not reduced: 19 20%)

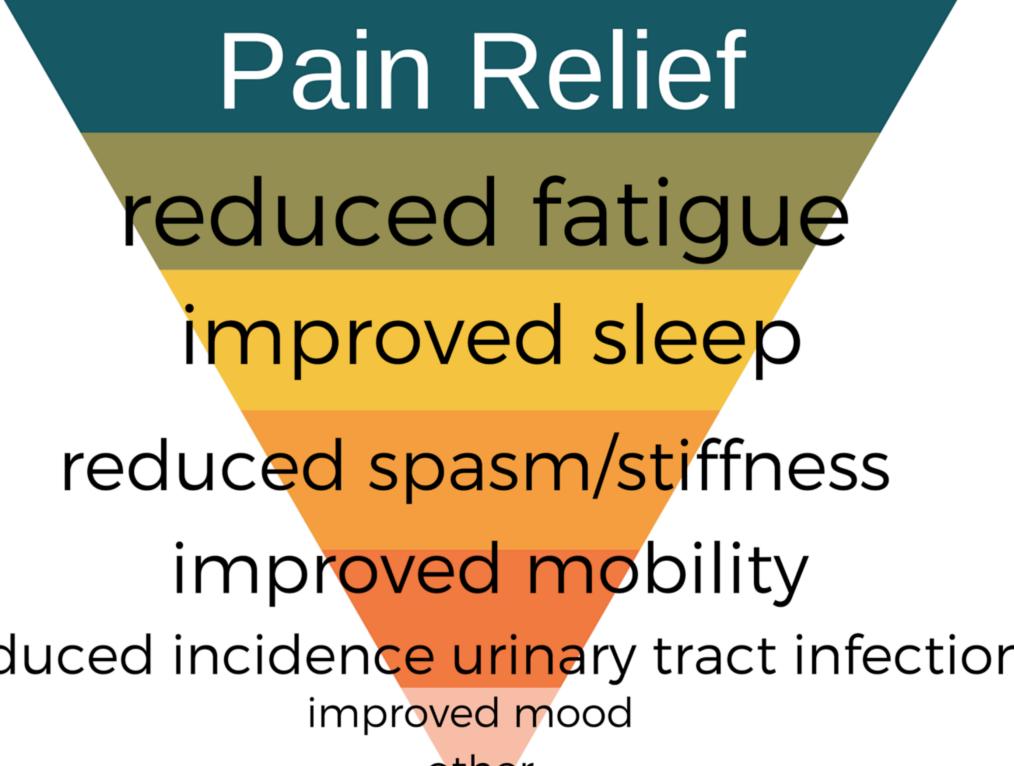


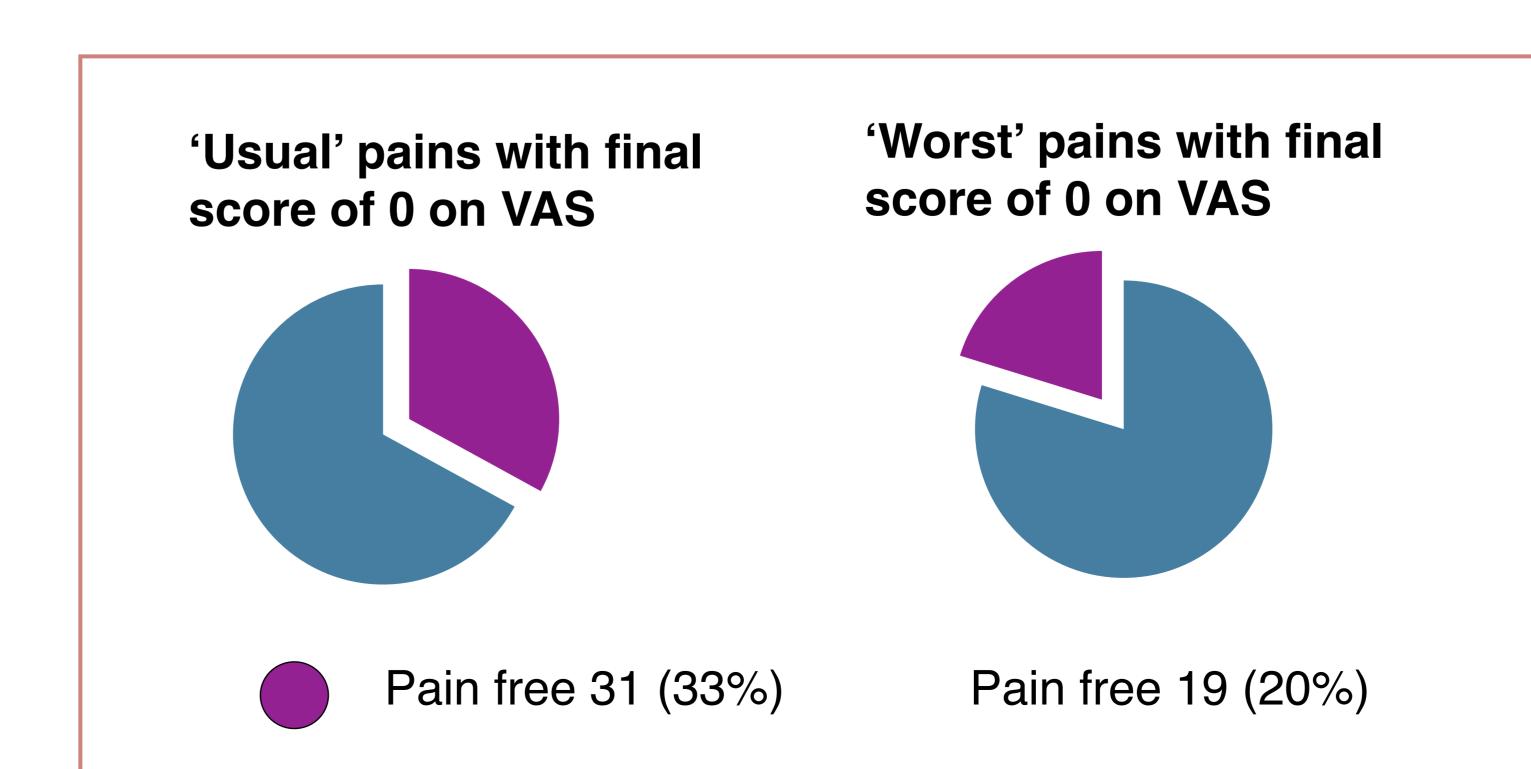




Volunteers supported people to use APS Therapy

There were many self-reported 'other benefits' that were perceived to result from the therapy, which we had not initially kept outcome measures for. In order of incidence of reporting, benefits were:





reduced incidence urinary tract infection

Conclusion

Discussion

'maintenance' therapy, once a week.

clinicians, which can introduce bias to the results.

APS Therapy seemed to be a safe and effective therapy to try in cases of both neuropathic and nociceptive pain. Statistical testing proposed effectiveness in all but the smallest sample ('other nociceptive pain') Participants in this study, most of whom had MS, had a significant reduction in pain using APS Therapy in 78% of cases. The therapy was safe, and in the main, people were extremely happy with this mode of treatment, preferring it to drug therapy, and in some cases reducing and discontinuing analgesic drugs as a result.

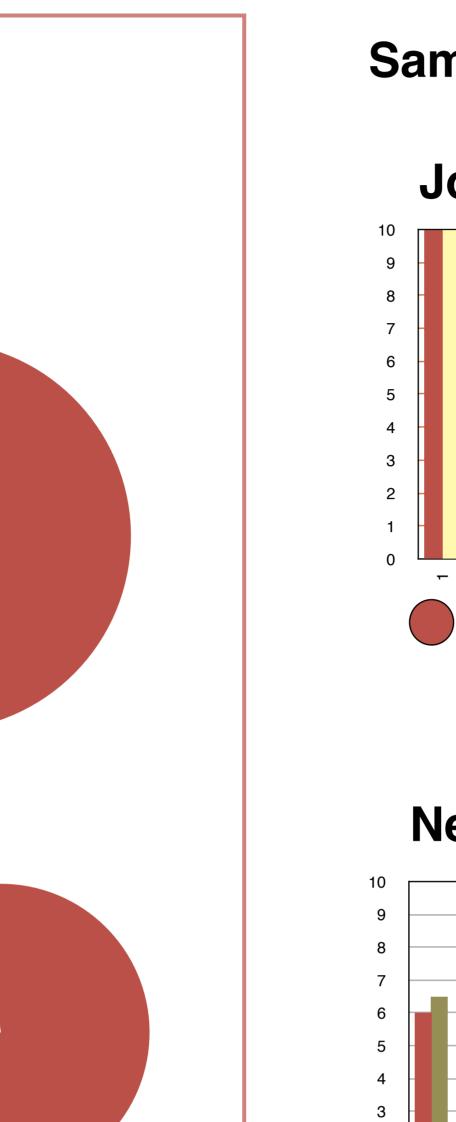
We hope that by presenting our pilot study of an APS Therapy service in the context of available research on the subject, we can stimulate further, robust clinical research, and practical use.

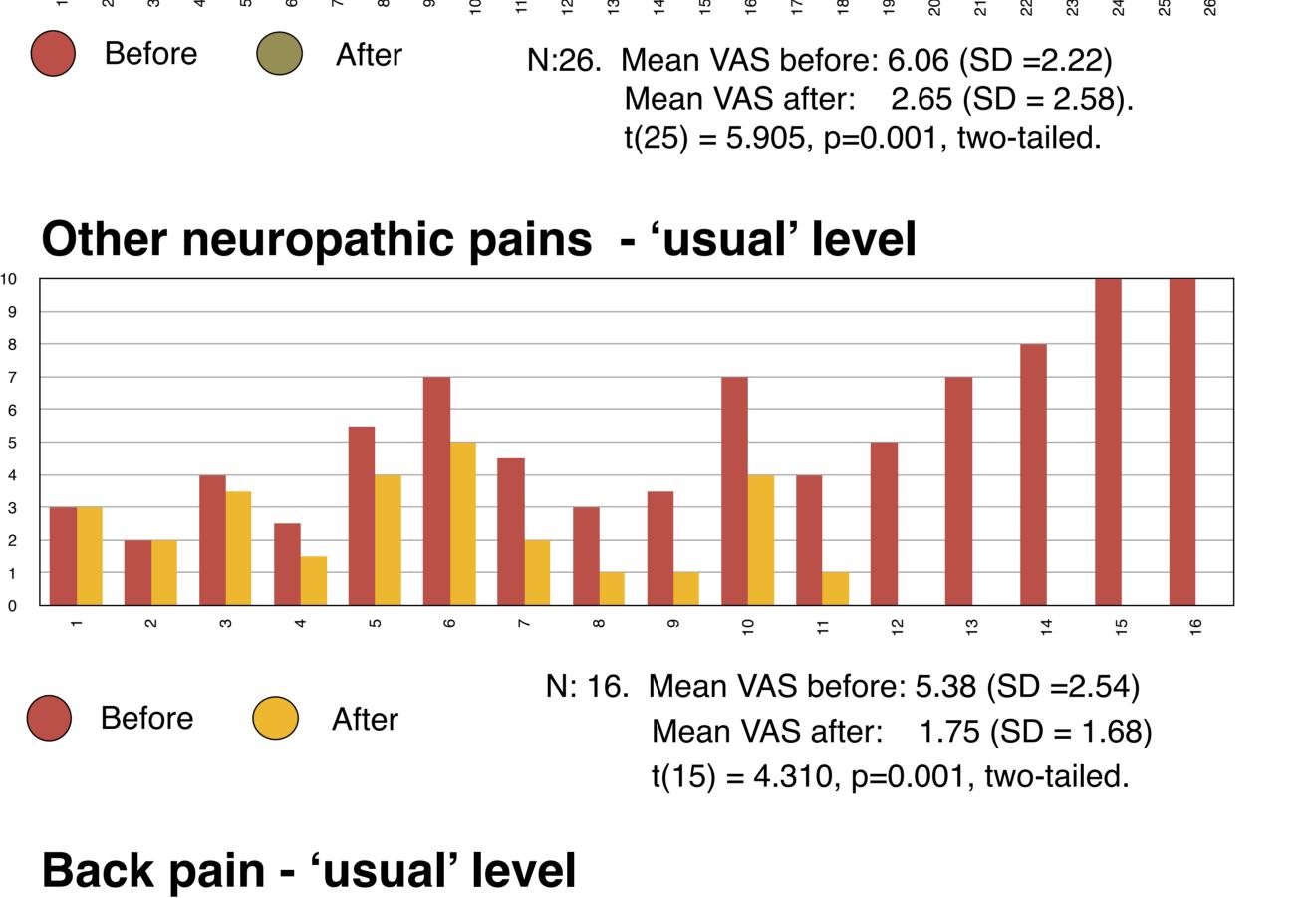
Acknowledgements & Disclosures

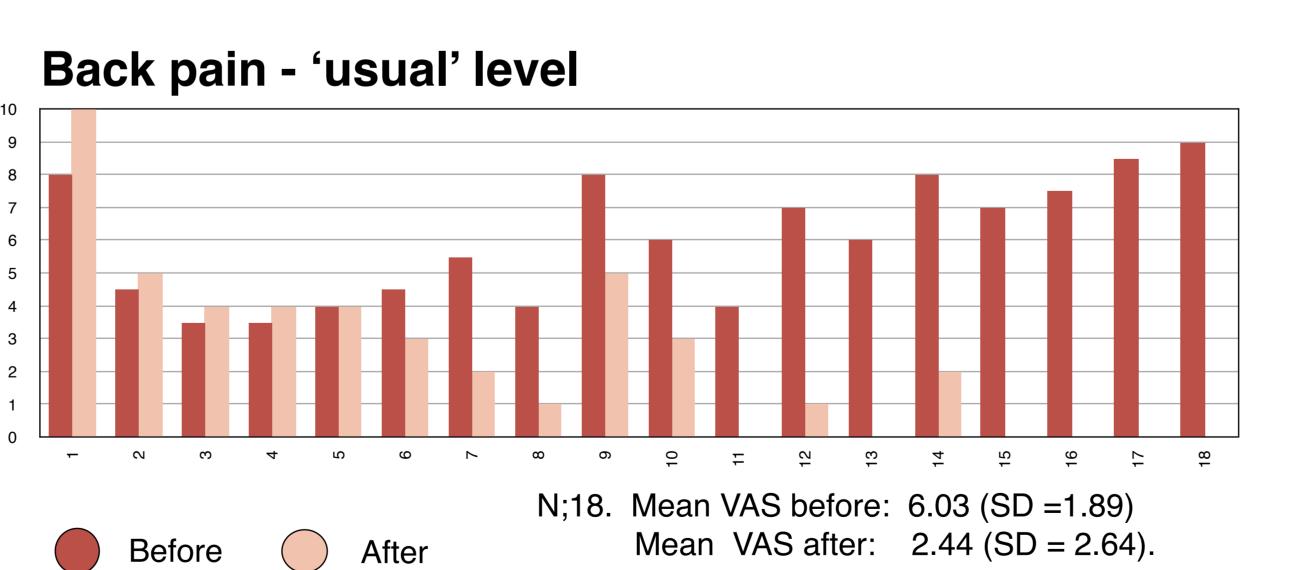
Beds & Northants MS Therapy Centre and all the APS Therapy clinic volunteers for their support and hard work. MS Therapy Centres national & CMSC for assistance to exhibit at CMSC conference. Since completion of this study, Miranda Olding now also works for www.painfreepotential.co.uk to train and distribute APS Therapy in the UK.

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Mean VAS after: 2.44 (SD = 2.64).

t(17) = 4.459, p=0.001