

**Purpose:** To investigate the effect of Neuro Emotional Technique (NET) in a randomised controlled trial (RCT) and to test the procedures of the proposed RCT for the management of chronic low back pain. Procedures include the recruitment of participants, attainment of assessment data, refinement of treatment and sham protocols.

**Relevance:** Low back pain is the most common presentation to chiropractic practitioners [1]. Pain is defined as “the unpleasant sensory and emotional experience associated with actual or potential damage or expressed in terms of such damage [2]. Recent evidence suggests that much chronic LBP is associated with physical and psychosocial components [3].

The biopsychosocial model of pain acknowledges the biological, psychological and social dimensions of the pain experience [4]. The emerging importance of such a model in chiropractic has previously been discussed [5]. This model recognizes amongst other variables that disability often results from an inability to perform activities due to the pain, or due to the fear of future pain. Disability is therefore a function of the pain and a response to it. The consequences of avoiding pain, and pain inducing activities, have been demonstrated to be deleterious [6]. Fear avoidance results in decreased social contact and causes a loss of roles in the family and the community and may lead to invalid status [7].

The mind-body approach attempts to integrate the psychosocial dimensions of the person into therapy. It essentially makes the process more active (with patient participation) rather than relying on the totally passive (doctor based) approaches of pharmacological medicine, surgery or manual therapy. The move toward a more active model of care has been brought about by the knowledge that the predictors of chronicity include: lack of exercise, invalid mentality, prolonged rest, litigation, workers compensation and other reward systems, poor life expectations, relationship difficulties, and poor work satisfaction amongst others [8].

Some forms of manual medicine have begun an exploration of some “mind-body” treatments in the attempt to integrate the function of the mind with the body in both assessment and therapy. Despite these lofty goals, very few of these treatments have been scrutinized under controlled conditions. This pilot study provides preliminary evidence that a mind-body approach, identified as Neuro Emotional Technique, may be beneficial in the treatment of chronic low back pain.

#### Methods:

**Participants:** Seventeen participants were recruited via print media. They rang a research office mobile number, and underwent a telephone screening protocol for eligibility into the study. Inclusion criteria included participants suffering from low back pain  $\geq$  than three months and VAS score of  $\geq 5$ . Exclusion criteria included: acute low back pain (<3 months duration); < 18 years of age; currently undergoing other manual therapy or psychological intervention; presence of “red flag” conditions; pregnancy; abdominal pain; vascular disease; motor vehicle accident or falls in last 3 months; neurological signs and symptoms; organic kidney, urinary tract or reproductive disease; straight leg raise of < 30°; previous spinal surgery; and bowel, bladder or sexual dysfunction.

Upon inclusion into the study, participants were then randomised into a treatment or control group. Participants were allocated to either group, predetermined by random number generator. The participants were blinded to which group they were assigned, the assessors of data were blinded, however the therapists were not blinded to group allocation. This study received ethics approval, through Macquarie University, Sydney, Australia. Ethics approval number:-HE26SEPT2003-RO2600.

**Outcome measures:** Upon initial consultation, all participants completed a new patient questionnaire, as well as a written information and consent form. Scores for subjective outcome measures were obtained at baseline and at 1 month (after 8 treatments). Outcome measures assessed included visual analog scale (VAS), the Modified Somatic Perception Questionnaire (MSPQ) score of the Distress and Risk Assessment Method (DRAM), Oswestry Disability Index (ODI) and Short Form McGill Pain Scale (SF-MPQ).

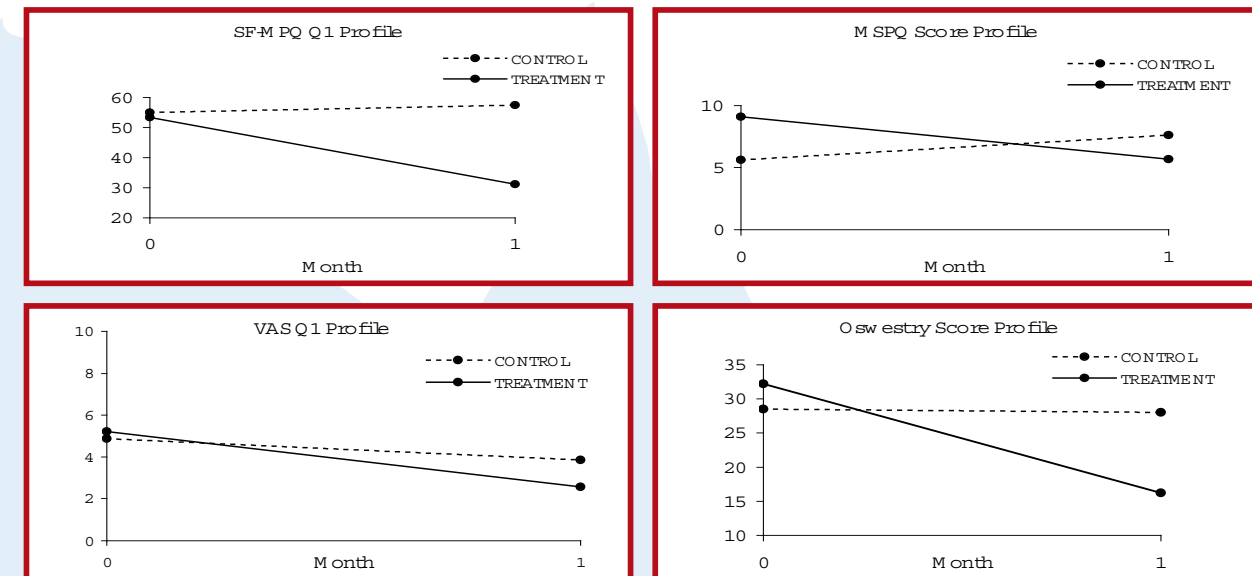
**Treatment (Neuro Emotional Technique) Group:** Participants who were assigned to the treatment group underwent a course of NET, as followed by the protocol outlined by Walker [9]. NET has been described as a 15 step, multi-modal intervention that incorporates principles of muscle testing, general semantics, Traditional Chinese Medicine, acupuncture, the meridian system and chiropractic principles in its application to manage patients. A major goal of NET is to achieve a reversal (or extinction) of classically conditioned distressing emotional responses to trauma related stimuli, stimuli that have the characteristic ability to reproduce or augment pain and other signs of disease without the original stressor(s) being present. Treatment was prescribed at a frequency of 2 sessions per week for one month, followed by 1 session per month for 2 months.

**Sham Group:** Participants who were assigned to the control group underwent a sham protocol of NET. The participants were administered an enthusiastic treatment of muscle testing and semantic testing which did not pertain to any emotional complex. Treatment was prescribed at a frequency of 2 sessions per week for one month, followed by 1 session per month for 2 months.

**Statistical Analysis:** A repeated measures analysis with a power model for the correlation over time, obtained using GenStat using a Linear Mixed Model (Residual Maximum Likelihood). There is some evidence that the variance of score data was not constant in this pilot study. Unfortunately, the small numbers prevented an in-depth check on this potential problem. All analyses were performed in Microsoft Excel or in GenStat (Version 9).

#### Analysis/Results:

##### Participants: One Month post treatment outcomes



**Discussion:** The preliminary findings of this study suggest that NET therapy is effective in the short term (one month) for reducing chronic LBP. Recruitment of participants via print media was successful and the careful consideration of the inclusion and exclusion criteria during the screening process was important. Whilst there was no loss of participants for this data set, some participants found it hard to schedule appointments as per the study protocol. Whilst we prevented this problem with the small number of participants, a larger long-term study would benefit from clear treatment scheduling in participant information sheets to avoid dropouts.

In this study, one patient in the control group did not properly complete VAS Q1, Q2, Q3 and Q4 scores at the post treatment assessment point. Whilst this did not have an effect on this study, it is important that missing data and all questionnaires are thoroughly checked for completeness by the research assistant.

One limitation of this study was the effect of treatment on initially very low pain scores. When pain scores at base-line are low that may be subject to a floor effect where improvement is limited by the initial pain level. In addition, using low values of chronic pain may not be valid for a chronic pain cohort. Despite the inclusion criteria stating a baseline value of 5 out of 10 or greater for pain on a VAS, several individual scores were reported between 1 and 4 out of a possible 10 due to ineffective monitoring by trial staff. These low scores have the potential to skew results unless very large participant numbers are recruited. Therefore, a pragmatic recommendation of this study is that inclusion criteria into this study should include baseline VAS scores greater than 5 and that the importance of this requirement be communicated with trial staff.

**Conclusion/Implications:** These preliminary findings provide support for the conclusion that NET therapy is effective in the short term (one month) for reducing chronic LBP. This study should be followed by a larger scale RCT to further examine the preliminary findings presented here. Further study should identify the changes associated with the pain profile of a group of chronic low back pain sufferers, as well as monitor validated outcome measures of Neuro Emotional Technique treatment assessed over a longer period of time.

**Keywords:** Chronic low back pain. Neuro Emotional Technique. Biopsychosocial model, RCT.

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