



Prifysgol Abertawe  
Swansea University

# The impact of osteopathy on co-morbid health psychological outcomes associated with pain

Dr. Darren J. Edwards, Senior Lecturer,  
Swansea University



The British  
Psychological Society

## Abstract

Co-morbid mental health conditions such as anxiety, depression, and fear avoidance are often associated with chronic pain [1] and may be related to psychological inflexibility [2, 3].

This novel study aimed to explore the impact of osteopathic treatment on several psychological outcome measures relating to anxiety, depression, mental health and fear avoidance for a chronic pain population receiving osteopathic treatment over a 2-week period.

The findings show that there were significant reductions in anxiety, pain, mental health dysfunction and improvements in self-care. These results are promising, and it is suggested that now a full-scale randomised controlled trial should be conducted.

## Methods

### Design

This was a prospective observational cohort study, where outcome measures were taken at three points in time and immediate effects recorded. The cohort is defined as a multi-pathway Health and Wellbeing cohort obtained through Swansea University.

### Materials and procedure

A total of six questionnaires were provided to the patients which included the demographics questionnaire. Once recruited, the patients were given the questionnaires in paper form during consultation in the following order: demographics questionnaire, EQ5D, Short-form McGill Pain Questionnaire (SF-MPQ), General Health Questionnaire (GHQ), HADS and FABQ. They were given the same questionnaires at three different time intervals: baseline, midpoint and endpoint. Baseline was the starting point before any OMT had occurred, midpoint was end of the first week of treatment and endpoint was the end of the second week of treatment.

### Data analysis

General linear models consisting of several one-way univariate repeated-measures ANOVAs were used to analyse the differences between the independent variable (point in time); baseline, midpoint and endpoint, with the dependent variables being the questionnaire patient outcome scores.

## Results

**Table** Mean and standard deviation (SD) of the scores for each outcome measure over the three points in time.

Outcome measure	Baseline measure Mean (SD)	Midpoint measure Mean (SD)	Endpoint measure Mean (SD)	F value	p value	$\eta_p^2$
EQ5D Mobility	1.71 (0.701)	1.74 (0.890)	1.55 (0.776)	2.056	0.133	0.035
EQ5D Self-care	1.09 (0.339)	1.34 (0.715)	1.19 (0.576)	5.243	<0.01**	0.084
EQ5D Activities	2.45 (0.994)	2.19 (0.712)	2.02 (0.868)	6.411	<0.01**	0.101
EQ5D Pain	3.09 (0.708)	2.74 (0.715)	2.52 (0.822)	14.367	<0.001***	0.201
EQ5D Anxiety	1.74 (1.001)	1.64 (1.021)	1.48 (0.922)	5.085	<0.01**	0.149
EQ5D VAS	69.07 (18.441)	68.78 (22.777)	71.71 (22.029)	0.514	0.600	0.009
EQ5D Total	77.12 (21.268)	80.05 (25.830)	80.40 (21.895)	0.487	0.616	0.008
McGill Sensory	6.86 (4.781)	7.29 (5.755)	6.78 (4.706)	0.490	0.614	0.009
McGill Affective	1.41 (2.169)	1.24 (1.931)	0.90 (1.398)	2.365	0.099	0.040
McGill Total	8.12 (5.354)	8.52 (7.385)	7.74 (5.581)	0.582	0.560	0.010
McGill VAS	5.078 (2.343)	4.509 (2.143)	3.651 (2.357)	10.572	<0.001***	0.156
GHQ12	3.47 (3.738)	2.62 (3.838)	2.02 (2.947)	9.130	<0.001***	0.138
HADS Anxiety	6.38 (4.920)	5.71 (4.542)	5.19 (4.861)	6.633	<0.01**	0.158
HADS Depression	4.74 (4.245)	4.47 (4.457)	4.33 (4.127)	0.635	0.522	0.022
HADS Total	11.12 (8.141)	10.38 (8.504)	9.52 (9.291)	4.050	<0.05*	0.066
Fear Physical	10.98 (6.010)	9.78 (5.275)	9.84 (5.001)	1.880	0.1575	0.032
Fear Work	9.21 (8.418)	8.43 (8.982)	8.41 (9.046)	0.418	0.660	0.007

EQ5D: EuroQol five dimensions; VAS: visual analogue scale; HADS: Hospital Anxiety and Depression Scale; GHQ12: General Health Questionnaire 12.  
\*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

## Conclusion

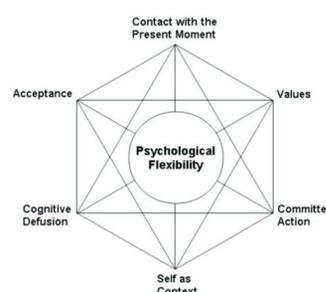
These results are promising, and it is suggested that now a full-scale randomised controlled trial should be conducted.

Of course the limitations of this study were that there was no control and immediate effects recorded after two weeks rather than longer term effects.

For the mental health aspects that OMT was less successful at treating, it is suggested that this should be combined with a psychological treatment intervention such as acceptance and commitment therapy (ACT).

ACT has components of acceptance, values, defusion, committed action, mindfulness, self as context (see Figure 1).

**Figure 1. The hexaflex of ACT and its six core properties**



## References

- [1] Miller LR and Cano A (2009) Comorbid chronic pain and depression: Who is at risk? *Journal of Pain* 10(6): 619–627.
- [2] McCracken LM and Samuel VM (2007) The role of avoidance, pacing, and other activity patterns in chronic pain. *Pain* 130(1–2): 119–125
- [3] McCracken LM and Yang SY (2006) The role of values in a contextual cognitive-behavioral approach to chronic pain. *Pain* 123(1–2): 137–145.

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