

An evaluation of a web-based pain management programme

'Pathway Through Pain': an interim analysis

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Introduction

There is a growing body of evidence supporting the effectiveness of web-based cognitive behavioural interventions. However, the evidence for web-based treatments for chronic pain is still developing (Eccleston et al., 2014; Macea et al. 2010).

Phase 1 of this evaluation was carried out in 2012 and results indicated that Pathway through Pain, a web based pain management programme (PMP) was shown to improve clinical outcomes. Following this it was agreed to carry out a larger Phase 2 evaluation.

The aims of this evaluation were: 1) to determine whether Pathway Through Pain leads to improved clinical outcomes in Phase 1 and Phase 2 for people with chronic pain; and 2) to evaluate whether health care costs from Phase 1 were reduced following completion of this PMP. This poster will report interim results in relation to clinical outcomes and health care costs.

Methods

The PMP was provided through and supported by a community chronic pain and fatigue management service. Patients were referred by physiotherapists working in a primary care musculoskeletal service. Referrals were screened by a Clinical Psychologist with expertise in delivery of PMPs. Where appropriate further information was obtained from referrers/GPs and telephone-based mental health risk assessments were conducted by an Assistant Psychologist. Suitable referrals whom opted for treatment were given access to the programme. Participants were required to activate their account and work through a series of 24 steps comprising a number of interactive screens. An Assistant Psychologist provided telephone and email support and offered a telephone consultation upon completion to review progress.

This study employs a pre/post test design with clinical outcome measures including disability (ODI), depression (PHQ-9), anxiety (GAD-7), quality of life (EQ-VAS), pain levels, confidence with managing pain, and problems in daily life due to pain. Health care costs (from in-patient, out-patient and A&E services) were extracted for the year pre- and post-intervention for people receiving the intervention and a comparison group of people who were referred but did not receive the intervention.

Between 2012 – 2016, 1062 patients were referred for consideration for the web-based PMP. There is pre- and post-intervention clinical outcomes data for 215 people from Phase 1 and 2 thus far and one year pre- and post-intervention health care cost data available for 190 people from Phase 1.

Results

Physiotherapists were able to identify potential people for the web-based PMP with 87% of referrals found to be appropriate. However, 13% of referrals were identified by the screening as unsuitable mainly due to significant mental health problems, on-going medical investigations/treatments for pain, or lack of confidence with the computer.

Clinical Outcomes

Of those patients who completed treatment in Phases 1 and 2 (and provided pre and post data) 79% were female and 21% were male. Ages ranged from 20 – 86 years; mean age was 54 years. Mean duration of pain reported was 8.5 years. Pre-post data was available for 215 patients who completed treatment from Phase 1 and Phase 2. A series of paired samples t-tests were used for outcome analysis. People completing the web-based PMP showed significant improvements in disability (ODI; $p = .000$, $d = 0.36$) mood (PHQ-9; $p = .000$, $d = 0.33$) anxiety (GAD-7; $p = .000$, $d = 0.36$) quality of life (EQ-VAS; $p = .000$, $d = 0.42$), confidence in managing pain ($p = .000$, $d = 0.30$), problems in daily life ($p = .000$, $d = 0.69$), and pain levels ($p = .000$; $d = 0.42$).

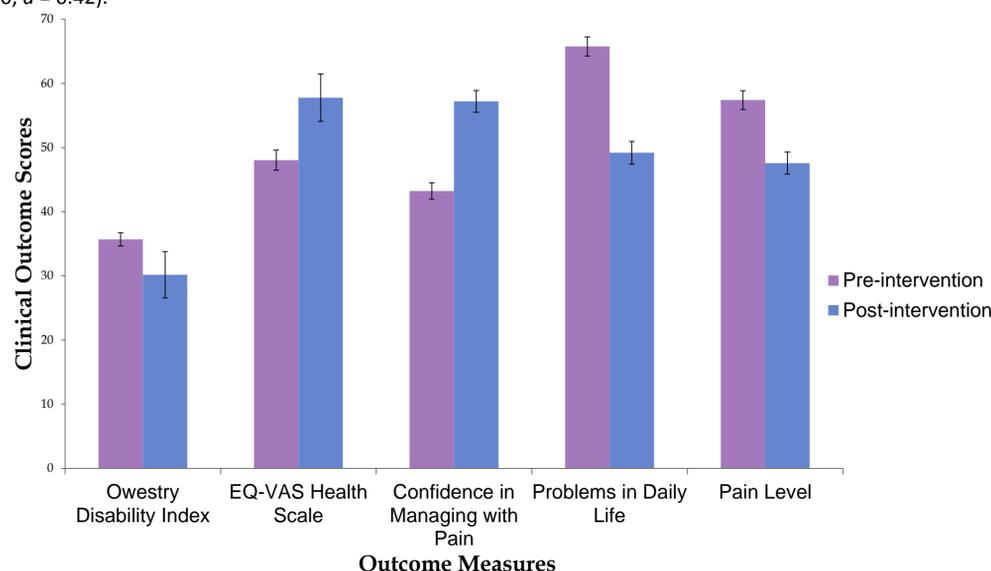


Figure 1. Pre- and post-intervention mean scores for ODI, EQ-VAS, Confidence with managing pain, Problems in daily life and Pain levels

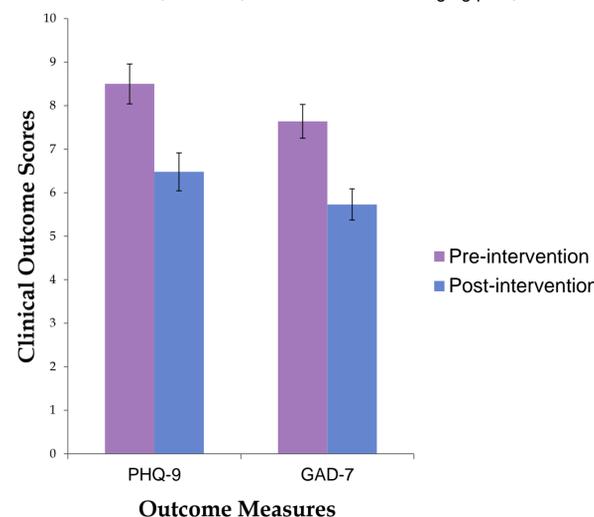


Figure 2. Pre- and post-intervention mean scores for PHQ-9 and GAD-7

Health Care Costs

Health care costs (from in-patient, out-patient and A&E services) were extracted for 190 people in Phase 1 of the evaluation for one year pre-intervention and one year post-intervention. Of these 190 people who were offered the online PMP, 100 people started the programme ("Pathway Through Pain") and 90 people did not take up the offer ("Treatment as usual"). Changes in health care costs across these two groups were compared.

The data indicates that the group who used Pathway Through Pain had large reductions in health care costs in the year after the intervention and the group who did not use Pathway Through Pain had increased costs during this period.

Table 1. Average health care costs per patient before and after intervention

	Average Pre-Intervention Costs	Average Post-Intervention Costs	Difference
Treatment as Usual (N = 90)	£572.25	£699.26	+ £127.01
Pathway Through Pain (N = 100)	£925.49	£510.71	- £414.77

Conclusions

For patients completing the web-based PMP there was evidence for significant health gains. However, a minority of patients referred entered treatment (46%) and, of these, a minority completed treatment (45%).

Despite this, for some patients, a web-based PMP may provide an acceptable low-intensity treatment choice. Web-based programmes could widen access for those unable to attend traditional group PMPs.

Furthermore, results suggest that this web-based PMP could lead to substantial reductions in health care costs.

At present, all recruitment for the Phase 2 evaluation has been completed. It is estimated that the collection of follow up health care usage data (one year post programme) will continue until September 2016 and final analysis will be completed by December 2016.

Literature cited

Eccleston, C., Palermo, T. M., Williams, A. C., Lewandowski Holley, A., Morley, S., Fisher, E., & Law, E. (2014). Psychological therapies for the management of chronic and recurrent pain in children and adolescents. Cochrane Database Syst Rev, 5(5).

Macea, D., Gajos, K., Daglia Calil, Y., & Fregni, F. (2010). The Efficacy of Web-Based Cognitive Behavioral Interventions for Chronic Pain: A Systematic Review and Meta-Analysis. Journal of Pain, 11(10), 917-929.

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