



**Service Priorities and Programmes**  
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**An Audit Report on a Seven-Year Work-related Back Injury Physiotherapy Management Program**

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**Introduction**

A work-related back injury physiotherapy program has been established since 2007 in Tuen Mun Hospital in the New Territories West Cluster. Fear-Avoidance Beliefs Questionnaire (FABQ) was used to triage patients with high fear avoidance belief so that patients with high fear avoidance beliefs (FABQ-Physical activity  $\geq 14$  and FABQ-Work  $\geq 34$ ) would receive the cognitive behavioral-based physiotherapy program (CBT) while those with low fear avoidance belief would receive the physiotherapy program with pain control and exercise only. The CBT program included advice on pacing of activity, advising on distorted beliefs about activity, assistance on identification of helpful and unhelpful thoughts about pain and activity.

**Objectives**

The objective of this study was to audit the outcomes of the program in consecutive 7 years for quality assurance.

**Methodology**

Patients who have injured their back at work of less than eight weeks were recruited into the captioned program. Patients enrolled into the program from August 2007 to December 2013 were recruited for outcome evaluation. Outcome measures were (1) Numeric Pain Rating Scale (NPRS) for intensity of pain; (2) Roland Morris Disability Questionnaire (RMDQ) for functional disability; (3) Hospital Anxiety and Depression Scale (HADS-Anxiety and HADS-Depression) for screening of anxiety and depression; (4) FABQ-Physical Activity and FABQ-Work for fear-avoidance belief. Paired t-test was used for comparison of yearly outcomes before and after intervention. One-Way ANOVA test was used to compare the difference in the changes of different outcomes in the consecutive seven years. SPSS software version 16 was used to analyse the data.

**Result**

From August 2007 to December 2013, a total of 2,246 patients (mean age of  $42.9 \pm 14.0$  years old, 812 female and 1,434 male) were recruited. It showed a significant

improvement in all outcomes as mentioned before and after intervention each year ( $p=0.001$ ). All changes in intensity of pain, functional disability, anxiety and depression mood and fear avoidance belief, were found to be statistically insignificant among the consecutive seven years. The change of post-program evaluation of NPRS (mean change  $2.1 \pm 2.9$  with  $p=0.372$ ), RMDQ (mean change  $3.0 \pm 6.0$  with  $p=0.328$ ), HADS-Anxiety (mean change  $1.1 \pm 4.0$  with  $p=0.588$ ), HADS-Depression (mean change  $0.9 \pm 3.7$  with  $p=0.328$ ), FABQ-Physical activity (mean change  $1.8 \pm 5.1$  with  $p=0.104$ ) and FABQ-Work (mean change  $2.9 \pm 9.8$  with  $p=0.116$ ) were found to be statistically insignificant. This audit report demonstrated significant improvement in all physical and psychological outcomes from the program in the seven consecutive years. Moreover, the improvement was able to be maintained throughout the seven years despite of frequent staff rotation.