



Service Priorities and Programmes
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Submitting author: Mr Ka Ho, Curtis Wong

Post title: Physiotherapist II, Tuen Mun Hospital, NTWC

**A 5-YEAR EVALUATION OF A PRE-OPERATIVE AND POST-OPERATIVE
EMPOWERING PHYSIOTHERPAY PROGRAM FOR PATIENTS WITH LUMBAR
PATHOLOGIE**

*Wong KHC(1), Cheung KK(2), To WKR(1), Suen MYAB(1), Chan LC(1), Poon YHP(1)
(1) Department of Physiotherapy, (2) Department of Orthopaedics & Traumatology,
Tuen Mun Hospital, Hong Kong.*

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Introduction

Pain was influenced by biological, psychological and social factors. Among these three factors, psychological factor was found to have a significant impact on the surgical outcome. Thus, a comprehensive empowering management program (CEMP) was launched for patients with lumbar spine pathologies before surgery in order to enhance their function after surgery.

Objectives

The objective of the study was to evaluate the effectiveness of the CEMP in improving back pain, restoring functional activities, resuming work duties, alleviating the psychological factor for those patients received lumbar spine surgery.

Methodology

Patients with lumbar spine pathologies including lumbar stenosis, spondylolisthesis and prolapsed intervertebral disc (excluding those with spinal cord injury), who would undergo a lumbar spine surgery were recruited. The CEMP consisted of a pre-operative education session and intensive post-operative physiotherapy training. In the educational session, patients were educated on the expected outcome after surgery and post-operative training program in the acute and ambulatory phases. Regular follow-up clinic involving patients, surgeons and physiotherapists were conducted to evaluate the patient's progress and to adjust the treatment plan accordingly. Outcome measures included: (1) Numerical Global Rating of Change Scale (NGRCS) as subjective improvement; (2) Numeric Pain Rating Scale (NPRS) as pain level; (3) Roland Morris Disability Questionnaire (RMDQ) as level of functional limitation due to back pain; (4) Fear-Avoidance Beliefs Questionnaire (FABQ) as fear avoidance belief; and (5) Hospital Anxiety and Depression Scale (HADS) for anxiety and depression. Data were collected pre-operatively, at the first post-operative

session and final physiotherapy session.

Result

From July 2008 to Nov 2013, 296 patients (162 male and 115 female; mean age of 53.8 ± 12.1 years old) with lumbar spine operation completed the program. Mean number of physiotherapy session was 21 ± 14 with average duration of post-operative physiotherapy of 125 ± 68 days. NPRS (6.2 ± 2.3 to 2.8 ± 1.3), RMDQ (14.2 ± 3.2 to 8.2 ± 3.17), FABQ-Physical Activity (19.3 ± 5.3 to 12.5 ± 5.6), FABQ-Work (26 ± 6.7 to 19 ± 5.9) and HADS-Anxiety (14 ± 3.2 to 8 ± 3.2) were significantly improved ($p < 0.05$) from the pre-operative to the final physiotherapy session. NPRS (3.2 ± 1.5 to 2.8 ± 1.3), RMDQ (11 ± 2.8 to 8.2 ± 3.17), FABQ-Physical Activity (18 ± 6.3 to 13 ± 5.6) and FABQ-Work (25 ± 5.2 to 19 ± 6.0) were also significantly improved ($p < 0.05$) from the first post-operative to the final physiotherapy session. In addition, the work status was significantly improved as demonstrated by an increase in the percentage of working population from 21.2% to 48.2% due to improvement in pain and functional capacity. Subjective improvement as measured by NGRCS was significantly increased ($p < 0.05$) from 4.7 ± 2.7 to 7.4 ± 2.6 from the first post-operative to the final physiotherapy session. A comprehensive empowering pre-operative and post-operative physiotherapy management program was found to be effective in reducing back pain, restoring functional activities, resuming work duties, alleviating both anxiety and fear avoidance beliefs for those patients received lumbar spine surgery.