

A multi-method approach for evaluating spinal manipulation and exercise for chronic neck pain**1.5 English Summary**

Neck pain is a prevalent health condition associated with substantial personal, social, and economic impact. This PhD thesis addresses commonly used non-invasive treatments for chronic neck pain (CNP). The main aims of this work were to assess the effectiveness of different types of exercise-based interventions and spinal manipulation and to explore the meaning of two commonly used outcomes: global perceived effect (GPE) and satisfaction to CNP sufferers.

Four projects comprise this thesis. There has been little research investigating the long term effectiveness of exercise and spinal manipulation for CNP. The results of the first project's randomized clinical trial (RCT) demonstrated greater pain reduction for patients who received supervised high dose exercise with spinal manipulation and supervised high dose exercise versus spinal manipulation alone over a two year period. Patients in the exercise with spinal manipulation group were most satisfied with care.

Upon completion of the first RCT, it was not known to what extent spinal manipulation added to exercise and the underlying reasons for patients' satisfaction. These outstanding questions were then addressed in the second project's mixed methods RCT using quantitative and qualitative approaches. It found high-dose supervised exercise with and without spinal manipulation resulted in short and long term advantages in pain, global perceived effect (GPE), and satisfaction, when compared to low dose home exercise. No differences were found between the groups receiving supervised exercise with and without manipulation providing evidence that spinal manipulation confers little additional benefit when added to exercise for CNP.

In the third project, the meaning of GPE to CNP patients was explored. It found a single item GPE instrument measures perceptions of change which may not be captured by other outcome instruments. Also, it demonstrated that patients commonly take into account the treatment process when determining their GPE, emphasizing the importance of the entire context in which interventions take place. Additionally, a large proportion of CNP patients believed it wasn't possible to ever reach complete recovery; this is often due to a perception that their CNP condition is irreversible.

The fourth project addressed the meaning of global satisfaction to CNP patients receiving exercise-based treatments. It found patients considered a range of factors, placing greater emphasis on the delivery of care versus outcomes. Further, the results illustrated the individualized nature of patient treatment related preferences, suggesting that while supervised exercise interventions may on average be effective, they won't necessarily be preferred. Further, this project's findings suggested that single item global satisfaction questions might mask important patient-oriented information that could affect treatment adherence and long term health seeking behaviors.