

# Support and Stress in Patients with Chronic Low Back Pain

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## INTRODUCTION

Back pain affects nearly 15% of those patients seeking medical care, according to a 2004 Duke study (Luo et al). It is the most common claim made for workers' compensation (Guo et al), and the total cost of treating back pain approaches 2.5% of total US healthcare costs, around \$26 billion (Luo et al). This sum includes the cost of office visits, prescription drug medicine, in-patient visits, out-patient visits, emergency room visits, and non-physician healthcare visits. Chronic back pain is often a life-long medical condition that limits a person's ability to work, do daily chores, and enjoy a social life. Patients with chronic back pain also suffer from many other chronic diseases directly or indirectly related to the back pain.

Several studies have examined multiple effects that chronic low back pain has on family life. One study explores the role reversal that chronic back pain causes, often leading to a sense of guilt, anger, and loss of identity in the patient (Strunin). Other studies illustrate the limitations of work and daily activities caused by low back pain. These studies examine how pain affects one's identity, marriage, and family relationships, but they do not explain how those systems of support or stress affect the pain, alleviating or exacerbating it. The Linton study shows some correlation between pain and physical and sexual abuse. In this study, we will look for correlations among supportive or stressful relationships and average pain, role function, and physical functional status of people with chronic low back pain. We will also look at the relationships between pain/health and violence/abuse.

## METHODS

**Subjects.** Investigators conducted this study in outpatient clinics of six family medicine residency programs across Texas. Patients were invited to participate if they were adults with low back pain for 3 months or longer, and were not new to the clinic. Investigators excluded pregnant women and patients with cancer.

**Procedure.** Medical students enrolled and surveyed 222 patients as they arrived for routine visits to the outpatient family medicine clinics. When the visit was complete, students retrieved their medical records and abstracted additional information related to low back pain.

**Measurement.** The 5-page patient survey addressed demographic characteristics, pain duration, frequency and severity, physical functioning and general health, anxiety, depression, social support and stress, and family violence. From the charts, students gathered information about the duration of the doctor-patient relationship, the patient's health insurance, the cause and duration of the low back pain, treatments for pain, comorbidities, and BMI.

**Analysis.** In this analysis, the key outcome variables were average pain, health score, physical function, and role function. Predictor variables included sum of supportive relationships, support of spouse or partner, marriage, violence in lifetime, and violence in last 12 months.

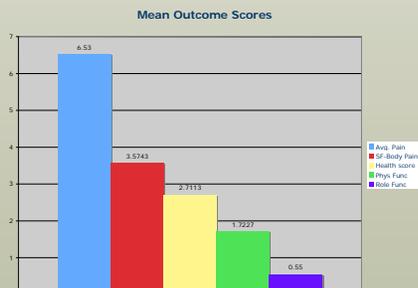


Figure 1

## RESULTS

The study enrolled 222 patients, of which most were female (66.2%). The largest ethnicity was white (42.8%), and most of the group was married (38.3%) or divorced/separated (28.4%).

Chronic low back pain patients rated their "average pain" as the pain level experienced on average in the last thirty days. The mean, reported on a scale of 1 (no pain) to 10 (worst pain), was 6.53 (see Figure 1). The Short Form-36 Body Pain (SF-body pain) combined average pain with effects of pain. The health score calculated the patient's view of his or her health as 1 (poor) to 5 (excellent). Physical function measured the capability of the patient to perform certain tasks. Role function accounted for the patient's ability to perform daily duties. These five outcomes were correlated with the supportive and stressful relationships specified by the patient, along with marital status, violence in the patient's lifetime, and violence in the last 12 months.

### Associations Between Social Support, and Pain, Health, and Function

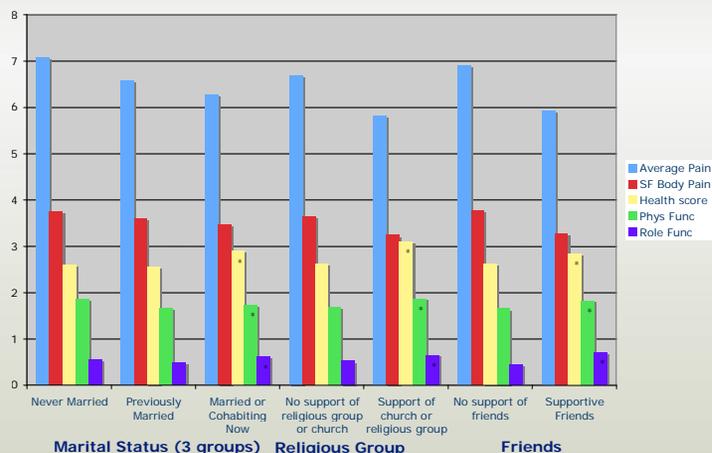


Figure 2

The stressful relationships did not correlate significantly with any of the five outcomes. Some supportive relationships, such as marriage, supportive church or religious group, and supportive friends, had significant positive associations with health score, physical functioning, and role functioning. However average pain varied little among the groups (see Figure 2). Average pain did correlate significantly with violence in the patient's lifetime.

Using multivariable regression analysis, marriage contributed to health score while not having a profound effect on physical function, physical role, or average pain. On the other hand, the quantity of supportive relationships correlated significantly with lower SF-body pain, and improved health score ( $p=.062$ ), physical function, and role function.

REGRESSION: AVERAGE PAIN	Unstandardized Coefficient (B)	Significance (p)
Violence Ever	0.313	0.017

Table 1

## RESULTS CONTINUED

REGRESSION: SUPPORT SCORE	Unstandardized coefficient (B)	Significance (p)
SF-Body Pain	-0.096	0.007
Health Score	0.067	0.062

Table 2

## CONCLUSIONS

- The data show that none of the supportive groups, stressful groups, or the marital status greatly affects average pain. Recent or previous violence can affect average pain, but violence may relate indirectly to pain by influencing depression or lifestyle (Fry, 1993).
- Multiple supportive relationships, especially those outside of the family, point to better pain management, as the physical function and overall health are higher with increasing supportive relationships.
- Stressful relationships do not play a large role in the physical function, pain, or health of the individual.
- This analysis agrees with other studies that have found that marriage and an absence of violence have a positive correlation with health and chronic pain respectively (Strunin and Boden).
- Surprisingly, when the patient lists the spouse or partner as a supportive relationship, the patient has lower physical function and physical role. This finding may be due to very ill patients having greater need of support from spouses, and spouses supplying more assistance to very ill partners, and less to functional ones.
- The physician responsible for chronic low back pain patients should encourage support from various familial and extra-familial people to assist in the patient's day-to-day health and functioning while treating for pain appropriately.

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