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Project: Psychosocial variables and characteristics of patients with persistent pain assessed at a New Zealand tertiary care pain medicine centre

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Introduction:

The epidemiology of chronic pain in New Zealand is not well understood. As such, its management in New Zealand has largely been based on data from international studies. This summer studentship continued the work of a 2013 study in evaluating demographic and psychosocial correlates of pain severity, duration and disability (PSDD) in chronic pain patients presenting for initial assessment at a New Zealand tertiary care Pain Medicine Centre. Also analysed was data pertaining to the location of pain and its potential influence on PSDD as well as possible correlations with the psychosocial measures.

Aim:

To evaluate specific demographic and psychosocial correlates of Pain Severity, Duration and Disability (PSDD) in chronic pain patients in Christchurch, New Zealand. Then to compare these results with those found by a previous similar audit of the same Pain Management Centre. The routine use of validated psychometric testing in the assessment of chronic pain patients is typically expected to augment the assessment that informs the clinical management of patients. The results of this study should provide insight into the accuracy of this expectation.

Method:

This study used a retrospective, cross-sectional design with existing clinical assessment data collected from a consecutive series of patients. These patients provided clinical assessment data prior to their initial assessment, including questions regarding demographics and their pain, as well as a number of psychometric questionnaires. These have been routinely collated into an anonymised database, which at the beginning of this study included all consenting patients between the start of 2013 and October 2015.

The information collected included demographic (gender, educational attainment, ethnicity) and psychosocial data. Pain severity was measured by numerical rating scale. Duration was measured in months. Disability was measured by using Pain Disability Index and psychological distress using the Depression Anxiety and Stress Scale. Pain location was determined by asking patients to mark their pain location on a diagram of the body. Self-efficacy was measured using the Pain Self-Efficacy Questionnaire. Catastrophising was measured by the Pain Catastrophising Scale and pain anxiety by the Pain Anxiety Symptoms Scale.

Results:

Over the data collection period, 940 patients consented to their data being held anonymously for research purposes. Compared with the previous study conducted at this site, there were significant shifts in age distribution, particularly in the group under twenty years of age which more than doubled in proportion (albeit remaining a relatively small minority). Females remained the majority (63.4%), as did New Zealand Europeans (81.6%). Differences in PSDD variables were found between: genders (extended duration, greater disability, higher scores on one measure of pain severity and poorer scores on several psychometric questionnaires for males); and educational levels (higher scores on two measures of pain severity and poorer scores on all but one of the psychometric questionnaires for those who had not completed post-secondary education); but not between ethnicities.

The previous study at the Burwood Pain Management Centre found no significant differences between genders or ethnicities and only minor relationships with education. Significant correlations were found between the PSDD variables and pain location, the psychometric questionnaires and age. These correlations were markedly similar to the correlations uncovered by the previous study. As so many potential associations were uncovered, including many inter-correlations between the variables being used as potential predictors, other analyses such as multiple linear regression were performed to determine which apparent relationships persisted.

For all three severity scores, pain catastrophising had the best predictive value, while pain self-efficacy and age were each significantly predictive for two pain severity scores. In terms of pain duration, male gender appeared to be the strongest predictive factor identified, with kinesiophobia being the only other factor significantly predictive of both measures of duration. In terms of pain-related disability (PDI score), the model fit was much better than for severity and duration.

All of the psychometric questionnaires were significantly predictive of disability, in particular the PSEQ score. Age and gender were also significantly predictive of disability. In terms of lowest and usual pain severity, limb (particularly lower) and 'whole body' pain tended to be more severe, while abdominal/chest and pelvic/ano-genital pain was less so. In terms of pain duration (in years), 'whole body' and back pain had greater durations compared to abdominal/chest and lower limb pain. Pain disability scores were similarly unfavourable in those with 'whole body' and back pain, compared to those with abdominal/chest pain.

Conclusion:

Compared with the previous study at the same site, this cohort was significantly younger and had a higher proportion of females. Like the previous study, no differences in PSDD variables were found between the majority ethnicity and minorities.

However, unlike the previous study, significant gender differences in pain variables were identified, with males scoring unfavourably on several of them. The results of the correlations performed in the previous study were largely similar to our own. Regression analyses revealed that of the pain variables, pain-related disability was the best predicted by the variables in this study.

It was significantly predicted by all of the questionnaires, as well as advancing age and male gender. Pain severity was best predicted by pain catastrophising and advancing age, while pain duration was best predicted by gender and kinesiophobia.

Significant differences in PSDD variables between pain locations were observed and were particularly unfavourable for those with 'whole body' pain.

Overall, these results provide confidence for the use of the psychometric questionnaires and demographic information collected from chronic pain patients.