Pain-Related Anxiety and Fear of Illness and Injury in Chronic Pain: A Comparison Between People with and without Compensation

Kristen M. Bailey, B.A., R. Nicholas Carleton, M.A., Murray P. Abrams, M. A.,
Shane M. Kachur B.M.R. (P.T.), and Gordon J. G. Asmundson, Ph.D.
Anxiety and Illness Behaviours Laboratory, University of Regina, Regina, SK

Introduction

- The inter-relationships among pain-related anxiety, avoidance beliefs, and chronic musculoskeletal pain (CMP) have been increasingly well documented (e.g., Asmundson et al., 2004)

- Recent research suggests that fear of illness or fear of injury is linked to escape and avoidance behaviour and may be a predictor of pain-related anxiety, and pain-catastrophizing (Vancleef et al., 2006).

- Researchers have also suggested that fear of illness and injury may predict the likelihood that an individual engages in health protective behaviour (Vancleef et al., 2007).

- The relationship between general distress-related variables (i.e., depression, anxiety) and CMP has been examined among people with CMP who are being compensated or who are engaged in litigation (Tait et al., 1990; Fishbain et al., 1988; Cutler et al., 2003); however, little research has investigated the relationship between CMP and current variables from fear-avoidance models (e.g., fear of illness, escape/avoidance behaviour) in persons receiving compensation or engaged in litigation.

- The present investigation compared people with CMP who were and were not receiving compensation with healthy controls on measures related to fear-avoidance models of CMP and psychological distress (i.e., anxiety sensitivity, pain anxiety, illness and injury fears, depressive symptoms, pain severity).

Method

Participants

- Participants (n=304) were drawn from three samples including community members and undergraduates:
    1. CMP with compensation (COMP):
       n=78; 62% women,
    2. CMP with no compensation (NON-COMP):
       n=70; 36% women
    3. Controls (CONTROL):
       n=156; 79% women

- The COMP group was older (M=40.6; SD= 9.3) than both the NON-COMP group (M= 32.5; SD= 12.7) and the CONTROL group (M=29.0; SD= 10.2), $F_{(2, 301)}$= 31.0, p<0.01.

Measures

- *Anxiety Sensitivity Index-3* (ASI-3; Taylor et al., 2007)
- *Pain Anxiety Symptoms Scale – 20* (PASS-20; McCracken & Dhingra, 2002)
- *Illness/Injury Sensitivity Index* (ISI-R; Carleton, Park, & Asmundson, 2006)
- *Centre Epidemiologic Studies Depression scale* (CES-D; Radloff, 1977)
- The visual analogue scale (VAS) on the *McGill Pain Questionnaire-short form* (SF-MPQ; Melzack, 1987).

Procedure

- Analysis of Variance (ANOVA) was used to assess for differences across the groups on all dependent variables. Scheffe post-hoc analyses were performed to determine specific between-group differences.

Results

- Pearson product correlations were conducted to assess relationships between age and all dependent variables.
    - Only pain severity scores on the VAS shared a significant positive relationship with age, R=.12, p<.05

- Statistically significant differences were found in pain severity (VAS) while controlling for age, $F_{(3, 301)}$= 28.0, p<.001, η^2=.22
    - The COMP group and the NON-COMP group reported significantly more pain than the CONTROL group; no differences in pain severity were found between the COMP and NON-COMP groups.

- Significant between-group differences were found for the PASS-20 *escape-avoidance*, $F_{(, 301)}$=10.1, p<.001, η^2=.06, and *fear* subscales, $F_{(2, 301)}$= 3.88, p<.05, n2=.03, with the COMP group reporting higher scores than both other groups (Table 1).

- Significant between-groups differences were also found for the CES-D, $F_{(2, 301)}$=7.12, p<.01, η^2=.05, with the NONCOMP group reporting higher depression scores than the CONTROL group, M_D=6.07, SE=1.61, p<.01, and approaching (p=.08) statistically significantly higher depression scores than the COMP group (Table 1).

- Significant between-group differences were also found for the ISI-R *fear of illness* subscale, $F_{(2, 301)}$= 4.76, p<.01, η^2=.05, as well as the *fear of injury* subscale, $F_{(2, 301)}$=7.39, p<.01, η^2=.05, with the NON-COMP group reporting higher scores than the COMP group, and the COMP group reporting higher scores than the CONTROL group (Table 1).

Discussion

- The current data suggest potentially important differences on several constructs of interest between people with CMP who are and are not receiving compensation.

- Past research has demonstrated a relationship between fear of illness-injury and escape-avoidance beliefs. Illness-injury sensitivity has also been suggested as a predictor of health protective behaviour such as medical help-seeking and escape-avoidance behaviour.

- The current results contrast previous findings because individuals who engage in escape/avoidance behaviour were expected to be more likely to express greater fears of illness and injury than individuals who engage in less escape-avoidance behaviour.

- Participants in the COMP group reported higher escape-avoidance behaviour and expressed more fear of injury than participants in the NON-COMP group; however, those in the NON-COMP group reported more fear of illness than participants in the COMP group.

- Non-compensated individuals may find the prospect of illness more globally threatening (e.g., greater recovery uncertainty) than injury. Additional research is required to delineate the implications of illness and injury fears in the contexts of differing levels of compensation.

- Future studies should prospectively explore the ISI-R subscales vis-à-vis fear-avoidance model related constructs (e.g., escape-avoidance behaviour, pain-catastrophizing).

Table 1: Scheffe post hoc comparisons on statistically significant variables

Dependent Variable	(I) Group	(J) Group	Mean Diff (I-J)	Std. Error
CES-D Total	COMP	NON-COMP	-4.15	1.84
		CONTROL	1.93**	1.61
PASS-escape	COMP	NON-COMP	3.12**	.10
		CONTROL	3.71**	.84
PASS-fear	COMP	NON-COMP	.74	.99
		CONTROL	2.21*	.84
ISIR-injury	COMP	NON-COMP	.67	.67
		CONTROL	2.05**	.56
ISIR-illness	COMP	NON-COMP	-2.52*	.83
		CONTROL	-.91	.96

Note: *p < .05, ** p <. 01

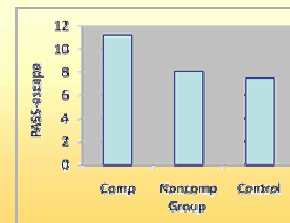Figure 1. Group comparisons on PASS-20 escape/avoidance subscale

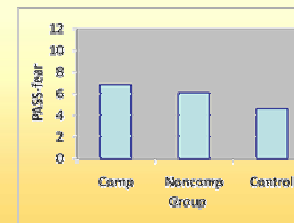Figure 2. Group comparisons on PASS-20 fear subscale
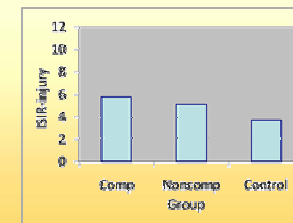

Figure 3. Group comparisons on ISIR-injury subscale

Figure 4. Group comparisons on ISIR-illness subscale