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CHARACTERISTICS OF PATIENTS WHO ATTRIBUTE CHRONIC PAIN TO MINOR INJURY

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ABSTRACT. Eighty-four chronic low back pain (CLBP) patients were studied in order to determine whether personality differences existed between patients reporting a minor injury at work as the cause of their disability and ensuing insurance claims, and patients who did not. Twenty-three of the CLBP patients studied reported that their pain resulted from an accident at work. All the subjects underwent a variety of psychological and somatic tests. The results indicate that the "accident" patient group is characterized by specific psycho-dynamic personality patterns significantly different from the characteristics of the "non-accident" group. The characteristics of the patients in the "accident" group suggest that these patients tend to hold on to minor injuries, and that one possible reason for this might partly be related to the liberal insurance policies in Sweden.

Key words: minor injury, personality, chronic low back pain, social insurance policies.

Low back pain has been steadily increasing in the past 2–3 decades, and has assumed almost epidemic proportions. (1, 34).

Quite a few studies have been performed in order to investigate the characteristics of chronically ill, low back pain (LBP) patients. A review has been presented by one of the authors elsewhere (28). It is important to distinguish between pain related to disease or injury, in which case orthopaedic/medical treatment is required, and pain that is psycho-socially or psychologically determined. In clinical practice it is often difficult to differentiate between the organic and psychogenic (functional) aetiology of back pain, as it is often a combination of the two.

A complete somatic examination is seldom necessary to rule out the orthopaedic or neurologic aetiology of the pain. About 70% of all LBP patients have no orthopaedic or neurologic disease (18). It is therefore more logical to attempt to identify patients who are vulnerable and prone to develop a chronic pain syndrome (6, 16, 17). There are, however, other facts to consider that may further complicate the evaluation of these patients. For instance, a person with a so-called "conversion V" MMPI profile runs the risk of developing chronic low back pain (CLBP) after an injury even if the injury, from a somatic point of view, has been successfully treated. A "conversion V" MMPI profile reflects elevated scores on three of the MMPI variables, hysteria (Hy), depression (D) and hypochondria (Hs), with a constellation where depression is the highest of the three. Some studies have shown that patients with such personalities run a considerable risk of developing a chronic pain syndrome, regardless of the presence of a somatic injury and/or orthopaedic disease (19, 26). Åkerlind et al. (31) have found that elevated hysteria and hypochondria scores are significant predictors of long-term disablement. Knowledge about the patient's personality profile provides a possibility to prevent somatization and the development of a "pain patient identity". It is further more important to notice that ergonomic factors are not significantly related either to back pain abnormalities or to the prognosis for recovery (9, 20, 32). Return to work among back pain patients seems to be mainly related to personality characteristics. The results of a treatment study performed by Esbjörnsson (5) indicate that post-treatment return to work is related positively to an optimistic and hopeful attitude towards life and negatively to feelings of insufficiency and need for assistance and social confirmation. Ergonomic and somatic factors were not related to the return work willingness. Jamison et al. (10) found that unlimited compensation may adversely influence a patient's return to work. Patients receiving workers' compensation tend to give themselves higher self-

ratings of pain and to engage in more pain behaviour than those who do not receive such compensation (11). In a Hong Kong population the patients with the worst treatment results were more likely to be immigrants from mainland China, be engaged in heavy manual labour, be involved in compensation claims for work-related injuries, manifest a high degree of anxiety and depression and be hostile towards medical personnel (14).

Psychologically vulnerable patients should not be subjected to unusually extensive somatic examinations as this tends to escalate their propensity to somatize personal problems (2, 29).

In the past 2 decades the number of chronically disabled back pain patients has been increasing dramatically, particularly in western societies. Extensive changes in the sociodemographic features of society contribute considerably to this, and it has been proposed by many authors that the reason for the development of chronic back pain and long term work disablement is of a multifactorial nature (30). The influence of some aspects of the social insurance laws of different countries has not been studied specifically. During the past decades these laws have become more and more liberal in most of the countries where back pain has assumed almost epidemic proportions. People injured at work seem to be disabled longer than those injured outside of work (7, 13).

The purpose of the present study was to investigate whether there are any significant differences in personality traits and psychosocial status between those patients who do and those who do not consider a minor injury to be the reason for and origin of their chronic pain.

MATERIALS AND METHODS

Patients

The participants were 84 CLBP patients (56 women, 28 men). The median duration of work disability compensation in the group was 2 years and 11 months. The average age was 40 years (SD = 9). Twenty-three patients (14 women, 9 men) reported a minor accident at work to have triggered their chronic pain and work disability. In none of these cases had the accident caused a measurable injury. All the patients in the "accident-group" had lodged an insurance compensation claim. Fifty-five patients were from northern Bohuslän, most of them living in the small city of Uddevalla, and 39 were from the city of Gothenburg. All were remitted for treatment by the local governmental social insurance company. The investigation procedure was the same in the two towns. No statistically significant differences were found between the patient groups from these two locations for any of the variables measured. The patients in the Bohuslän group were treated at five different primary health care centres. All the doctors treating this group had participated earlier in an education programme lasting for nearly 2 years, one afternoon per fortnight, which was conducted by one of the authors (27). In Gothenburg the patients were treated in collaboration between the Institute of Psychosomatic Medicine and the Centre of Occupational Medicine of the City of Gothenburg (Kommunhälsan). Two of these doctors had participated in the above education programme. In both towns all the treatments were supervised and designed by the above-mentioned author.

The selection criteria were:

- more than 3 months' work disability resulting from LBP
- no known orthopaedic, neurological or rheumatological cause of the pain
- no other known diseases that could cause the disability
- less than 50 years old.

All the patients were examined as follows:

I. Somatic examination: • detailed physical examination performed by an experienced general practitioner and an authorized physiotherapist • roentgenogram and scintigram of lumbo-sacral region • orthopaedic examination.
II. Detailed psychological and social investigation: • MMPI (Minnesota Multiphasic Personality Inventory) (10) • CMPS (Cesarec Marke Personality Scheme) (3) • MACL (Mood Adjective Check List) • KSP (Karolinska Scales of Personality) (22) • TAT (Thematic Apperception Test) pictures: 1, 3BM, 8BM, 11, 13MF, 14, 15, 18BM. A revised projective test-technique and evaluation, the Sivik Psychosomaticism Test (SPS) (24, 26) was used for the purpose.

The TAT protocols were taped and evaluated blindly by 2 independent raters who had not been in contact with any of the patients. The 2 raters had psychoanalytical training and were experienced clinicians in psychiatry. The ratings consisted of overall judgements of the TAT protocols. The items were then categorized in accordance with a classification system designed by one of the authors (Sivik) (29).

The patients also filled in:

- A 60 item Pain Questionnaire based on American and Swedish scales standardized for a Swedish population (15, 21) with questions related to the duration, intensity and degree of pain as well as the socio-economic and occupational situation and status, family relationships, leisure activities and feelings about pain. These variables cover both qualitative and quantitative aspects of pain.
- The Patient Pain Drawing (PPD) test (a drawing of a human body on which patients mark their experience of pain). This test was evaluated using a special method worked out by Sivik (25).

The investigation included tests of both a structural and a projective nature. This combination has proven to reveal different personality layers present in chronic pain patients (12). The order of presentation of the tests was standardized.

The null hypothesis tested (ANOVA analysis of variance) was that there would be no difference between the following two groups:

Accident group – patients considering an accident to be the cause of their pain

Non-accident group – patients not considering an accident to be the cause of their pain.

Table I. *ANOVA analysis of variance of the differences between the two groups*

Variables	Injury group		Non-injury group		F-test	$p<$
	M	SD	M	SD		
Hypochondriasis	66.00	16.21	81.00	18.58	9.80	0.01
Psychic anxiety	35.10	7.24	44.69	10.49	15.31	0.001
Somatic anxiety	50.41	11.57	58.53	12.72	6.37	0.01
Muscular tension	49.96	10.57	61.16	11.47	28.15	0.001
Social desirability	42.87	10.91	52.67	9.84	14.02	0.001
Self-confidence	3.51	0.43	2.67	0.53	14.67	0.001
Activity	2.66	0.59	2.08	0.90	7.77	0.01
Ordinance	4.26	1.91	6.17	1.95	10.30	0.01
Oral traits	0.80	0.41	0.50	0.43	7.33	0.01
Dependency	0.71	0.46	0.29	0.37	7.85	0.01
Guilt TAT	0.22	0.11	0.43	0.41	7.83	0.01
Paranoid traits	0.75	0.45	0.31	0.28	6.33	0.01
ELoC	0.87	0.34	0.50	0.51	8.60	0.01
PPD	10.21	2.62	11.77	2.93	4.01	0.05
VAS 2	4.94	0.90	6.06	1.06	10.75	0.01
Sibling's pain	0.21	0.42	0.53	0.51	6.41	0.01
Job	0.83	0.38	0.37	0.48	12.12	0.01
Mental stress	0.65	0.48	0.31	0.47	5.56	0.05
Pain elevation	0.90	0.92	1.84	1.30	6.10	0.01
Medication	0.69	0.60	1.67	0.98	8.12	0.001

ELoC: External Locus of Control; PPD: Patient Pain Drawing; VAS 2: Visual Analogue Scale, at follow-up.

RESULTS

For none of the 60 sociodemographic variables concerning psychosocial background, education, type of job, family situation and the like, were significant differences found between the "accident" and the "non-accident" groups.

All the differences found between the "accident" and "non-accident" groups – both in Gothenburg and Bohuslän – either applied to personality variables or to the subjective experience of pain in relation to everyday life activities.

The variables on which the two groups differed significantly are shown in Table I.

The results show that the individuals in the "accident group", those who considered the minor accident to be the cause of their pain,

- were significantly less obsessive and orderly
- experienced less muscular tension
- felt less psychic and somatic anxiety
- felt less intensive pain when the pain was at its worst
- had less frequent periods of pain elevation
- used fewer "pain killers"
- reported a lower incidence of pain among siblings
- were less concerned about being socially accepted, and
- had fewer guilt feelings
- were less hypochondriacal
- scored lower on PPD (Pain Drawing test)
- had a higher rate of oral traits
- had external locus of control and
- were more dependent – these together reflect a proneness to expect support from others. They were also
- more self-confident
- more active during leisure time
- still had an occupation
- but experienced the job as stressful
- exhibited more signs of paranoid traits.

DISCUSSION

The patients who did not report an accident were: orderly, perfectionistic and obsessive, had experienced guilt feelings, were concerned about other people's opinions of them and were tense and anxious. They also reported that their siblings had had pain problems, indicating the possibility of problematic family relationships. They felt that their pain was constantly increasing and they used not only analgesics but also sedatives extensively. In general, they seemed to be more neurotic, showing patterns of obsessive anxiety

neurosis which can be considered to reflect a "Lutheran personality profile". This pattern actually expresses the particular personality of the "pain prone patient, as described by Engel (4) as early as in 1959. Such a patient suffers both mentally and physically and requires multidisciplinary treatment by a highly skilled team consisting of physicians, psychologists with good psychotherapeutic education, physiotherapists and occupational therapists.

The other group of patients, i.e., those who reported an accident, had in most cases lodged insurance claims. The accidents reported were minor and did not cause any clear orthopaedically or neurologically detectable damage.

It is, of course, possible to describe this group as "psychologically healthy" persons who, due to an injury, have developed a chronic pain syndrome. Almost none of them gave up their jobs since such a step would entail reduced insurance benefits. They experienced their jobs as stressful and strenuous – but in their everyday life they were rather active. They were (orally) dependent and demanding. The various oral traits indicate an attitude of an infant towards its mother, which means that they are expecting and demanding from others but not giving anything in return. At the same time they were not inclined to feel guilt – a trait typical of an infant.

These interpretations of the test results are somewhat speculative, but in this context it appears probable that the policy and attitude underlying the insurance system in Sweden may perhaps be a source of encouragement to some people – particularly those with a weak superego – to "hang on" to even a minor injury. If such reactions are permitted to persist over a long period of time it could be difficult for them to return to normal work.

It may be added here that, since this study was performed, a new, less liberal system has become legalized in Sweden as from July 1, 1993.

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