

Psychological aspects of acute low back pain in general practice

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SUMMARY. A prospective controlled study of acute low back pain in general practice was carried out. The presence of psychiatric illness was measured by use of the general health questionnaire (GHQ), by clinical assessment, and personality factors by use of the Eysenck personality inventory (EPI). It was found that overall the amount of psychiatric illness did not differ between patients with back pain and their controls at the time of presentation, although there was a higher prevalence of previous psychiatric illness in the back-pain group. The only difference in the personality factors measured was a higher degree of extraversion in the back-pain patients.

Introduction

LOW back pain is a major problem in general practice. Morrell and Wale¹ found it to be the third most commonly perceived symptom in a group of women aged from 20 to 44 years, although in only one seventh of these cases was the backache made known to the general practitioner. It was complained of sufficiently often, however, for it to be ranked sixth in the list of complaints presented for medical advice. Study of *Morbidity statistics from general practice*² indicates that backache accounts for about one third of the consultations for diseases of the musculoskeletal system, and for about one in 40 of all consultations with a general practitioner. It has been estimated that 3.6 per cent of all sickness and injury incapacity is due to low back pain.³

Despite its statistical importance, there have been surprisingly few papers on low back pain which have come from general practice. Blair⁴ published the results of a study of 112 cases collected from his practice of 2,300 during an 18-month study. One of his categories, 'the indefinite group', was made up of 23 women and four men in whom examination and investigation failed to reveal any convincing cause for the backache; Blair found psychological factors which he considered relevant in all 27 cases. He presented figures for the number of patients with psychoneurosis or depression in

the same 18-month period and noted how many of them had low back pain, but he did not consider whether there was a statistically significant association between the conditions. Rutter⁵ found 12 cases of anxiety state among 126 patients with lumbosacral backache, but did not state whether this was more or less than the number of cases one would expect in his practice. A third study from British general practice⁶ did not discuss psychological factors, despite there being no evident cause for the backache found in about four fifths of the patients. More recently, Barker⁷ commented that, of 175 patients he had studied, six patients with mild back and leg pain 'seemed to have psychological problems, and their backache appeared to be a symptom of an underlying emotional difficulty'. All these studies from general practice, however, lack any valid measurement of psychiatric symptoms.

More formal studies of the psychiatric status of low back pain patients have been carried out in hospital-based studies. Initial studies,⁸ in which the Middlesex Hospital questionnaire was used, suggested that it was possible from the scores to distinguish between patients with a good or poor outcome to physiotherapy, and these authors postulated that the 'poor response' group was characterized by a depressive syndrome described principally in somatic terms. Using the same questionnaire, a later study⁹ failed to identify the outpatients who became persistent attenders or those who were later judged to have a psychiatric disorder. Findings based on studies of hospital outpatients with conditions such as low back pain may be of limited relevance to general practice since relatively few such patients are referred to hospital. Accordingly, it seemed that there was need for a study of the psychiatric status of patients with low back pain as they presented to a general practitioner.

Aims

The aims of this study were:

1. To determine whether patients with acute low back pain have a similar prevalence of psychological illness compared with a control population.
2. To determine whether personality traits, identified by the Eysenck personality inventory (EPI), in patients with acute low back pain are similar to those of a control population.

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Table 1. History of low back pain among the patients in the study.

	Previous history	No previous history	Total
Back pain group	33	37	70
Control group (M/S)	1	26	27
Control group (other)	2	44	46
Total number of patients	36	107	143

$\chi^2 = 40.05$, $df = 2$, $P < 0.001$.

Table 2. History of psychiatric illness.

	Previous history	No previous history	Total
Back pain group	23	47	70
Control group (M/S)	2	25	27
Control group (other)	8	38	46
Total number of patients	33	110	143

$\chi^2 = 8.35$, $df = 2$, $P < 0.02$.

Method

The study was carried out while the author was a general practitioner working in Derbishire House Health Centre, the main general practice teaching centre in the University of Manchester.

Patients were included in the study if they presented with a complaint of low back pain—that is, pain below the twelfth rib and above the gluteal folds, and radiating from one flank to the other, with an onset within the week before consultation. Patients whose back pain seemed to be arising from areas other than the spine or associated structures were excluded, as were those patients whose pain arose during a febrile illness, who were pregnant or who were illiterate in English. The control group was composed of a random selection of patients presenting with a physical symptom, other than low back pain, with an onset within the previous week. Patients presenting with a psychological symptom—for example, 'nerves', insomnia, etc.—were thus excluded as, again, were pregnant women.

Back-pain patients and control patients were asked to complete a 60-item general health questionnaire (GHQ).¹⁰ The results were used to help formulate a clinical diagnosis, which was made in all cases, including those where the patient refused to complete a questionnaire. Eight weeks after the initial consultation, patients were asked to re-attend and to complete a second GHQ and also an Eysenck personality inventory (EPI) form A.¹¹ The EPI was administered at this stage as experience with a pilot study had shown that spuriously high *N* (neuroticism) scores could result if the EPI were administered at the initial consultation. Patients who failed to re-attend were sent further questionnaires and asked to return them by post. A note was made of the length of time from first to last consultation (excluding the follow-up appointment at eight weeks) in the episode of illness. The data obtained were coded and analysed using SPSS version 6 statistical program at the University of Manchester Computing Centre. Patients were recruited into the study for a total of 107 weeks.

Table 3. Association between past histories of back pain and of psychiatric illness.

History of back pain	Psychiatric illness		Total
	No	Yes	
No	88	19	107
Yes, no treatment	7	2	9
Yes, had treatment	15	12	27
Total number of patients	110	33	143

$\chi^2 = 8.66$, $df = 2$, $P < 0.02$.

Table 4. Results of initial GHQ by group.

	Classification		Total
	Normal	Abnormal	
Back pain group	34	19	53
Control (M/S) group	19	8	27
Control (other) group	28	18	46
Total number of patients	81	45	126

$\chi^2 = 0.67$, $df = 2$, not significant. GHQ = general health questionnaire.

Results

There were 70 patients in the back-pain group and 73 patients in the control group, 27 of whom had consulted with a problem related to the musculoskeletal system (control (M/S) group) and 46 with some other problem (control (other) group). There was no significant difference in the sex ratio and the mean ages of the back-pain group or of the control group. There was a new rate of consultation with back pain of 21.8 males per 1,000 male population per year and 24.3 females per 1,000 female population per year, a total of 22.7 per 1,000 population per year.

Tables 1 and 2 show the histories of back pain and psychiatric illness in the back-pain group and control groups, and Table 3 shows the correlation between previous histories of low back pain and psychiatric illness.

The results of the general health questionnaire administered at the initial consultation are given in Table 4; the classification 'normal' or 'abnormal' is in accordance with Goldberg's¹⁰ recommendation that a cutting score of 11/12 be used. As not all patients completed a GHQ, I formed my own impression of whether each person was a 'case' or a 'non-case', and the results are given in Table 5. Four patients who could not be placed in a category have been disregarded in Table 5; even if they had been included in either category, the results would not have been significantly changed.

The results of the personality assessment, as measured by the EPI, are presented in Table 6. The different parameters of the EPI—that is, the *N* (neuroticism), *E* (extraversion/introversion) and *L* (lie) scores—were compared between the back-pain group and the combined control groups by means of Student's *t* test.

Table 5. Number of 'cases' and 'non-cases' in each group of patients.

	Case	Non-case	Total
Back pain group	28	39	67
Control (M/S) group	6	20	26
Control (other) group	19	27	46
Total number of patients	53	86	139

$\chi^2 = 3.07$, $df = 2$, not significant.

Table 6. EPI scores for each group (mean and standard deviation).

	N	SD	E	SD	L	SD	No.
Back pain group	10.17	5.08	12.70	4.46	3.37	1.94	47
Control (M/S) group	9.80	4.75	11.75	4.58	3.90	2.22	21
Control (other) group	9.95	4.85	10.50	4.27	3.66	1.83	38
Total number of patients	9.97	4.89	12.01	4.56	3.61	2.01	106

Back pain group's *N* score versus control groups' *N* score:
 $t = 0.24$, $df = 103$, not significant.

Back pain group's *E* score versus control groups' *E* score:
 $t = 2.21$, $df = 103$, $P < 0.05$.

Back pain group's *L* score versus control groups' *L* score:
 $t = 0.48$, $df = 103$, not significant.

N = neuroticism, *E* = extraversion/introversion, *L* = lie, SD = standard deviation.

Discussion

It is interesting to note that almost half the patients with back pain had a past history of previous attacks, whereas few of the control patients had a similar history. This incidence is not as high as that reported in a recent study from Denmark,¹² but it emphasizes the often recurrent nature of the complaint. More of the back-pain patients also had a previous history of psychiatric illness recorded in their clinical notes. However, there was no evidence from this study of a higher incidence of psychiatric illness among patients presenting with low back pain than among the control patients at the time of presentation of their symptom. This discrepancy might be explicable if the back-pain patients were of a more neurotic or hypochondriacal type of personality, giving greater scope for their having been labelled at some time with a diagnosis of psychiatric illness. This would accord with the findings of some North American investigators¹³⁻¹⁵ who, using the Minnesota multiphasic personality inventory, found hypochondriacal patterns in back-pain patients. No significant difference between the neuroticism scores of the back-pain group and the control groups was demonstrated in this study. The explanation for this may lie in the instrument used—the possibility that differences in neurotic personality cannot be detected by the EPI, but this runs counter to a wealth of experience with the EPI—or it may lie in the different types of patients

studied. The previous studies quoted were carried out on patients with continuous back pain some time after the onset of pain, whereas the patients in this study were suffering from acute back pain and few of them developed prolonged pain. It is suggested that patients either become hypochondriacal as a result of chronic pain or that those with hypochondriasis from the beginning tend to develop chronic pain. As so few patients developed prolonged pain, this question cannot be resolved satisfactorily by the present study. In personality factors, the only noteworthy difference between the study groups was a greater degree of extraversion in the back-pain patients. Possible explanations for this are that extraverted people tend to be more active and therefore more liable to put their back at risk or more likely to consult about their pain than introverted patients.

In conclusion, there seems no reason for a general practitioner to regard patients with acute back pain as any more likely to have a psychiatric illness, or a neurotic personality, than patients with acute non-psychiatric complaints.

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